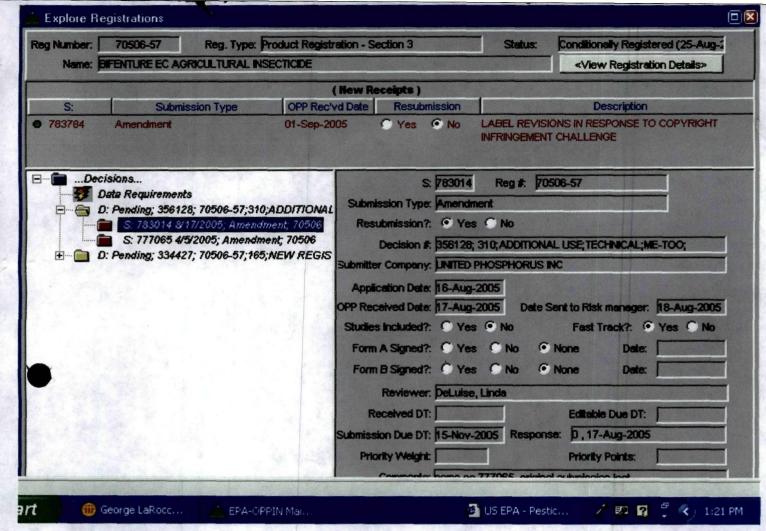
# EPA REGISTRATION NUMBER 70506-57 Vol 1



10-310

call and indicate OTP and Dada Maters is needed since sure sure as supported by dada.

called 105 1:30 to person to part dates medicar called 105 AM

2



# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

August 18, 2005

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

ANN TILLMAN UNITED PHOSPHORUS INC 423 RIVERVIEW PLAZA TRENTON, NJ 08611

PRODUCT NAME: BIFENTURE EC AGRICULTURAL INSECTICIDE

COMPANY NAME: UNITED PHOSPHORUS INC

**OPP IDENTIFICATION NUMBER: 274856** 

EPA FILE SYMBOL: 70506-57 EPA RECEIPT DATE: 08/17/05

SUBJECT: RECEIPT OF AMENDMENT

**DEAR REGISTRANT:** 

The Office of Pesticide Programs has received your application for an amendment and it has passed an administrative screen for completeness.

During the initial screen we determined that the application appears to qualify for fast track review. The package will now be forwarded to the Product Manager for review to determine its acceptability for fast track status.

If you have any questions, please contact Registration Division, Risk Management Team 13, at (703) 305-6100.

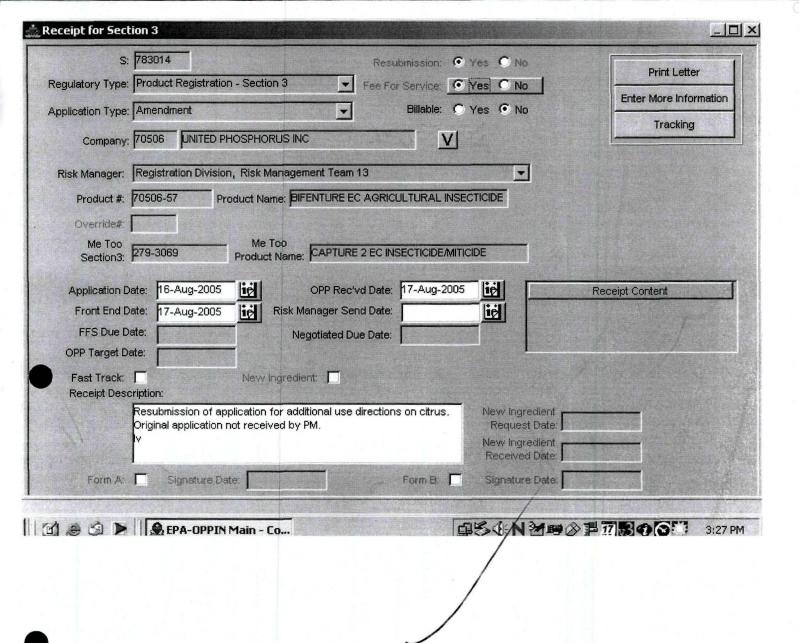
Sincerely,

A Wrise

Front End Processing Staff

Information Services Branch

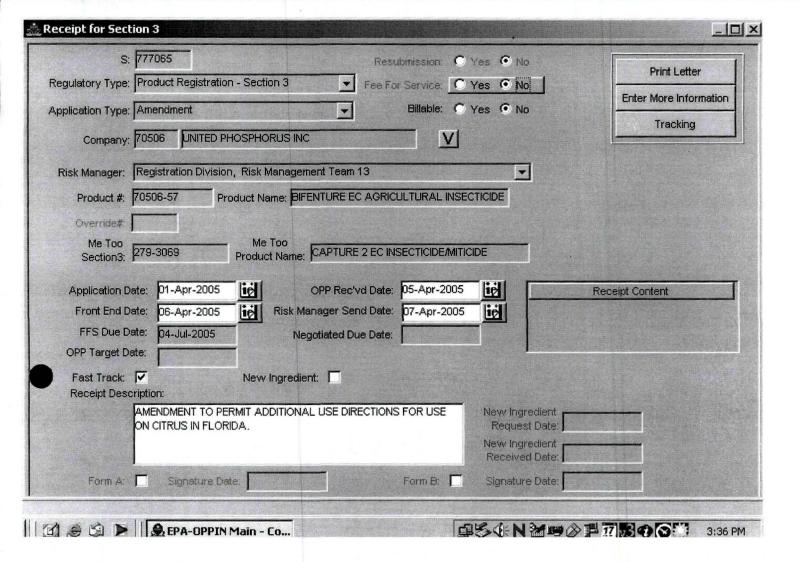
Information Technology & Resources Management Division



77.1 06%

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# Fee for Service



This package includes the following	for Division
<ul><li>New Registration</li><li>Amendment</li></ul>	O AD O BPPD O RD
Studies? Fee Waiver? volpay % Reduction:	Risk Mgr. 13
Receipt No. S- EPA File Symbol/Reg. No. Pin-Punch Date:	<ul><li>√ 783014</li><li>70506-57</li><li>8/17/05</li></ul>
This item is NOT subject to	FFS action.
Action Code:  Requested:  Granted:  Amount Due: \$	Parent/Child Decisions:
Reviewer: J. Miller Remarks:	Date: 8-18-05

Please read instructions on reverse before completing form Form Approved, OMB No. 2070-0060, Approval expires 5-31-98 **OPP** Identifier Number Registration **United States** Amendment **Environmental Protection Agency** 274856 Other Washington, DC 20460 Application for Pesticide – Section I 2. EPA Product Manager 3. Proposed Classification 1. Company/Product Number LaRocca 70506-57 PM# Restricted 4. Company/Product (Name) None United Phosphorus, Inc/Bifenture EC Agricultural Insecticide 6. Expedited Review. In accordance with FIFRA Section 3(c)(3) 5. Name and Address of Applicant (Include ZIP Code) (b)(i), my product is similar or identical in composition and labeling United Phosphorus, Inc. 423 Riverview Plaza to: Trenton, NJ 08611 EPA Reg No. 279-3069 Check if this is a new address **Product Name** Capture 2EC Insecticide/Miticide Section - II Amendment - Explain below Final printed labels in response to Agency letter dated Resubmission in response to Agency letter dated "Me Too" Application Notification - Explain below Other - Explain below Explanation: Use additional page(s) if necessary. (For Section I and Section II.) Amendment to permit additional use directions for use on Citrus in Florida. Section III 1. Material This Product Will be Packaged in: Child-Resistant Packaging Unit Packaging Water Soluble Packaging Type of Container Yes Yes Yes Metal **Plastic** No No Nο Glass \*Certification must No. per If "Yes" If "Yes' No. per Paper Unit Packaging wgt. container Package wgt container Other (Specify) be submitted Location of Net Contents Information 4. Size(s) Retail Container Location of label directions Label Container On Label On Label accompanying product 6. Manner in Which Label is Affixed to Product Lithograph Other Paper glued Stenciled Section IV 1. Contact Person (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.) Title Telephone No. (Include Area Code) Rebecca A, Clemmer Regulatory Affairs Manager 609-392-8200 Certification Date Application I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. Received I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law 2 Signature (Stamped) Regulatory Affairs Manager 4. Typed Name 5. Date 4/1/05 Rebecca A. Clemmer EPA Form 8570-1 (Rev. 8-94) Previous editions are obsolete. White - EPA File Copy (Original) Applicant Copy



# UP United Phosphorus, Inc.

423 Riverview Plaza Trenton, NJ 08611 (609) 392-8200 x 18 (phone) (609) 392-0808 (fax)

Rebecca A. Clemmer Regulatory Affairs Manager

August 16, 2005

George LaRocca (PM 13) Document Processing Desk (AMEND) Office of Pesticide Programs (7504C) U.S. Environmental Protection Agency 1801 Bell Street Arlington, VA 22202

Re:

RESUBMISSION of lost application

Bifenture™ EC Agricultural Insecticide (EPA Reg. No. 70506-57)

Application for Additional Use Directions on Citrus

Dear Mr. LaRocca:

In response to a telephone call from Linda Deluise of your office, I am resubmitting the above application for an amendment to our Bifenture EC label. I understand that this application was lost, and will receive prompt attention at your end.

Please contact me if you have any questions.

Very truly yours,

Rebecca A. Clemmer

rclemmer@upi-usa.com



# **United Phosphorus, Inc.**

**423 Riverview Plaza Trenton, NJ 08611**(609) 392-8200 x 18 (phone)
(609) 392-0808 (fax)

Rebecca A. Clemmer Regulatory Affairs Manager

April 1, 2005

George LaRocca (PM 13)
Document Processing Desk (AMEND)
Office of Pesticide Programs (7504C)
U.S. Environmental Protections Agency
1801 Bell Street
Arlington, VA 22202

Re:

Bifenture<sup>TM</sup> EC Agricultural Insecticide (EPA Reg. No. 70506-57)

Application for additional use directions on Citrus

Dear Mr. LaRocca:

United Phosphorus, Inc. is applying for approval of additional directions for use of the subject product on Citrus. The Citrus use directions on the currently approved label have not been accepted by the state of Florida (due to unique requirements there), and thus, in conjunction with the state, the attached use directions have been developed. The Supplemental Label we have developed will be in addition to the existing use directions and is not meant to replace them. It is substantially similar to supplemental labeling produced by FMC for its Capture 2EC product, EPA Registration No. 279-3069.

Enclosed in support of this action, please find the following:

- EPA form 8570-1;
- 1 copy of the complete product label with the new directions inserted, marked to show changes
- 5 copies of the complete product label with the new directions inserted;
- 5 copies of the Supplemental labeling by itself.

Because use on Citrus is already present on our approved label, no data compensation issues need to be addressed for this amendment. No data are being submitted for review, and this action does not fall under the requirements of PRIA.

Please contact me if you have any questions.

secra a. Clemmer

Very truly yours,

Rebecca A. Clemmer relemmer@upi-usa.com

- Marked copy-

### RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

# BIFENTURE™ EC AGRICULTURAL INSECTICIDE

# BIFENTURE EC AGRICULTURAL INSECTICIDE IS NOT FOR SALE OR USE IN CALIFORNIA.

Active Ingredient:	By Wt.		•••••
Bifenthrin* (2 methyl[1,1'-biphenyl]-3-yl) methyl 3-(2-chlor	ro-3,3,3-trifluoro-		
1-propenyl)-2,2-dimethylcyclopropanecarboxylate	25.1%		
Inert Ingredients**:	<u>74.9</u> %		•••
TOTAL	100.0%		•
		• • •	
*Cis isomers 97% minimum, trans isomers 3% maximum.		• . • . • •	•
**Contain xylene range aromatic solvents			•••
This product contains 2 pounds active ingredient per gallon.		. 9 • • • C	٠.:
		္ •••၁৬	•
KEEP OUT OF	REACH OF CHILDREN		••••
			0 • • •
	WARNING		

This label must be in the possession of the user at the time of application.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

**AVISO** 

	FIRST AID						
If swallowed	Call a poison control center or doctor immediately for treatment advice.						
	• Do not induce vomiting unless told to do so by the poison control center or doctor.						
	Do not give any liquid to the person.						
	Do not give anything by mouth to an unconscious person.						
If in eyes	Hold eye open and rinse slowly and gently with water for 15-20 minutes.						
• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing							
	Call a poison control center or doctor for treatment advice.						
If inhaled	Move person to fresh air.						
	• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably						
•	by mouth-to-mouth, if possible.						
	Call a poison control center or doctor for further treatment advice.						
If on skin or							
clothing	• Rinse skin immediately with plenty of water for 15-20 minutes.						
	Call a poison control center or doctor for treatment advice.						

NOTE TO PHYSICIAN

This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR EMERGENCY MEDICAL ASSISTANCE, CALL THE NATIONAL PESTICIDE INFORMATION CENTER 1-800-858-7378.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.



Manufactured for: United Phosphorus, Inc. 423 Riverview Plaza • Trenton, NJ 08611 1-800-247-1557 • www.upi-usa.com

EPA Reg. No. 70506-57 EPA Est. No. Net Contents:

# PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals Warning

WARNING. May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield or safety glasses). Harmful if absorbed through skin or inhaled. Avoid breathing spray mist. Avoid contact with skin. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

### Personal Protective Equipment (PPE):

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

# Handlers who may be exposed to the dilute through application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber or Viton
- Shoes plus socks

# Handlers who may be exposed to the concentrate through mixing, loading, application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber, or Viton
- · Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

#### **Environmental Hazards**

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

#### Physical/Chemical Hazards

Do not use or store near heat or open flame.

### **DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Resistance: Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control in your area.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves, such as barrier laminate or nitrile rubber or neoprene rubber or Viton.
- · Shoes plus socks.

#### STORAGE AND DISPOSAL

Pesticide Storage: Do not freeze. Do not store below 40°F. If crystals are observed, warm material to above 60°F by placing in warm location. Shake or roll container periodically to redissolve solids.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.

To Confine Spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Container Disposal: Metal or Plastic Container: Triple rinse (or equivalent), then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers

Returnable, Refillable Containers: Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

#### Chemigation Use Directions

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

For LEPA irrigation a minimum of 0.75 inch of water per acre is recommended. Where non-emulsified oils are used as the diluent, 1 to 2 pints per acre is recommended.

Results from utilizing chemigation have been variable and depend upon the set up and calibration of equipment. Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. Contact your State Agricultural Extension Service specialists, equipment manufacturers or other experts for consultation on the suitability of the equipment set up to obtain effective control of the target insect pests.

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease application during a mechanical stoppage may result in undesirable residues to adjacent areas.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Bifenture EC Agricultural Insecticide should be applied continuously for the duration of the water application. Bifenture EC Agricultural Insecticide should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation, a minimum of 0.5 inch per acre of irrigation water is recommended. Agitation generally is not required when a suitable diluent is used. A diluent test should be conducted to ensure that phase separation will not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

# **Rotational Crops**

Crops for which bifenthrin tolerances exist may be rotated at any time. All other crops may be rotated 30 days after the last application.

#### Tank-Mixture

Bifenture EC Agricultural Insecticide may be applied in tank mixtures with other products approved for use on registered crops.

Observe all restrictions and precautions which appear on the labels of these products. Test for compatibility of products before mixing.

## Application Instructions

Rate of application is variable according to pest pressure, timing of sprays, and field scouting. Use lower rates under light to moderate infestations; higher rates under heavy insect pressure and for mite control. Arid climates generally require higher rates.

Cultivation within 10 feet of a water body is prohibited to allow for the growth of a vegetated filter strip.

In New York State this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

#### Spray Drift Precautions

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMANENT STREAMS; MARSHES OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.

Do not apply by ground equipment within 25 feet, or by air within 150 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds. Increase the buffer zone to 450 feet when ultra low volume (ULV) application is made in cotton. Use of ultra low volume (ULV) application on corn and hops is prohibited.

For aerial applications, the spray boom should be mounted on the aircraft so as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of wing span or rotor diameter.

Use the largest droplet size consistent with good pest control. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.

Spray should be released at the lowest height consistent with pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided.

Make aerial or ground applications when the wind velocity favors on target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid applications when wind gusts approach 15 mph.

Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

Do not cultivate within 10 feet of the aquatic areas so as to allow growth of a vegetative filter strip.

Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift to aquatic areas. Avoid spraying during conditions of low humidity and/or high temperature.

Do not make aerial or ground applications during temperature inversions. Do not make aerial or ground applications to corn if heavy rainfall is imminent. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

## INDEX TO CROPS LISTED ON THIS LABEL

Artichokes

Brassicas

Caneberries

Canola, Crambe, Rapeseed

Citrus (Not for this use in Florida)

Citrus (For use in Florida only)

Cotton

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (At Plant Use)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (PRE & PPI)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (Foliar Use)

- Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (At Plant Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (Foliar Use)

Cucurbits

Eggplant

Grapes

Hops

Lettuce, Head

Pears

Peppers, Bell and Non-Bell

Spinach

Succulent Peas and Beans

Tomatoes

# **ARTICHOKE**S

	DOSAGE		
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Artichoke Plume Moth Cribrate Weevil	0.10	6.4	Apply when pest population reaches damaging threshold and repeat as necessary to maintain control, but not more often than 15 day intervals.  Application by ground: Apply a full cover spray in a minimum of 75 gallons of finished spray per acre.
			Application by air: Apply specified dosage in a minimum of 10 gallons per acre.  Do not exceed 0.5 lb. a.i. /A per season.  A 5-day preharvest interval must be observed.

# BRASSICAS

			DOSA	GE	
	CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
I	lead and Stem	Aphids	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre
	Brassica	Armyworms	·		by air or in a minimum of 10 gallons per acre with ground
	Vegetables	Corn Earworm	,		equipment. When applying by air, 1-2 quarts of emulsified
	including:	Crickets			oil may be substituted for 1-2 quarts of water in the finished
I	Broccoli	Cucumber			spray. Thorough coverage is essential to achieve control.
I	Brussels Sprouts -	Beetles		•	
	Cabbage	Cutworms			Do not apply more than 0.5 lb a.i. (1 quart) per acre per
(	Cauliflower	Diamondback	•		season.
	Cavalo Broccolo	Moth			
10	Chinese Broccoli	Flea Beetles			Do not make more than 5 applications after bloom.
	(gai lon, white	Ground Beetles	,		
	flowering	Imported	,		Do not make applications less than 7 days apart.
	broccoli)	Cabbageworm			
- (	Chinese Cabbage	Leafhoppers			Do not apply within 7 days of harvest.
, }	(napa)	Loopers			
	Chinese Mustard	Saltmarsh			
	Cabbage (gai	Caterpillar			
	choy)	Stink Bugs			
]	Kohlrabi	Thrips			
-		Tobacco			
İ		Budworm			
	-	Whitefly	:		
		Wireworm	,	i	
		(Adults)			
		Banks Grass	0.08-0.10	5.12-6.4	
		Mite			
		Carmine Mite			
		Lygus spp.			
		Pacific Spider			
		Mite			
		Twospotted			
L		Spider Mite	l		

# **CANEBERRIES**

,		DOSAGE		
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Caneberries	Leafrollers	0.05-0.10	3.2-6.4	Apply by air or ground equipment using sufficient water to
including:	Orange Tortrix		Ì	obtain full coverage of foliage (minimum of 10 gallons per
Bingleberries	Root Weevils			acre by air and 50 gallons per acre by ground).
Blackberries				
Dewberries				One application may be made pre-bloom and a second
Loganberries				application may be made post bloom.
Lowberries				
Marionberries				Do not exceed 0.2 lb. a.i. /A per season.
Olallieberries				
Raspberries				Do not apply within 3 days of harvest.
Youngberries				
	Spider Mites	0.10	6.4	7

# CANOLA, CRAMBE, RAPESEED

	DOSAGE		
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.04	2.1-2.6	Apply in a minimum of 2 gallons of finished spray per acre by air or in a
Armyworms		•	minimum of 10 gallons per acre with ground equipment. When applying
Cutworms			by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of
Diamondback			water in the finished spray. Thorough coverage is essential to achieve
Moth			control.
Flea Beetle			
Flea Hopper			Do not apply more than 0.08 lb. a.i. (5.12 ounces formulated product) per
Grasshopper			acre per season. Do not make applications less than 14 days apart.
Loopers			
Other			Do not apply within 35 days of harvest.
Lepidopterous			
Larvae			
Plant Bug			
Seedpod Weevil			
Stink Bugs			
Thrips			·
Whitefly			

# **CITRUS**

(Not for this use in Florida)

PEST	DOSAGE	REMARKS AND RESTRICTIONS
Asian Cockroach  Diaprepes Root  Weevil (Diaprepes	16-32 ounces (0.25-0.50 lb. active) per acre	Apply to individual citrus resets, when not in solid planted rows, using hand-gun or shielded sprayer.
abbreviatus) Fire Ants		Peak emergence of Diaprepes root weevil generally occurs in the spring. Depending on weather conditions, a minor emergence of Diaprepes root weevil may also occur in the fall.
		If the citrus grove to be treated is in an area where weather conditions are conducive to primary emergence occurring in the spring, 32 fluid ounces formulated product should be used to obtain the longest residual management of Diaprepes root weevil.
		If the citrus grove to be treated is in an area where weather conditions will promote more than one peak of pest emergence, 16 fluid ounces formulated product can be applied early season and 16 fluid ounces formulated product can be applied later in the season.
		If emergence extends beyond the residual protection of Bifenture EC, grower is advised to use additional management strategies (i.e. foliar adult control or soil larvae control such as nematodes). Contact your state agricultural Extension Specialist as to the recommendation suited for local conditions.
	·	Do not apply through irrigation systems.
		Do not allow any application of Bifenture EC to contact fruit or foliage.
		Do not apply more than a total of 32 fluid ounces of formulated product (0.5 lb. a.i.) per acre per year.
		Apply the specified dosage in a minimum of 30 gallons of finished spray per acre.
		Ground application only. Do not apply by air.
		Do not apply within 1 day of harvest.

# <u>CITRUS</u> (for use in Florida)

			(10f use in Florida)
ÌГ			
I	PESTS	DOSAGE	REMARKS AND RESTRICTIONS
I	Diaprepes Root Weevil	16 – 32 fl oz	Apply BIFENTURE EC by ground equipment to bare soil beneath
	Diaprepes abbreviatus)	(0.25 - 0.5 lb ai)	citrus trees. BIFENTURE EC must be uniformly applied from the
	Southern Blue Green Citrus	per acre	trunk to the drip line of the tree; apply in a minimum of 40 gallons of
	Root Weevil		dilute spray per acre.
11 -	Pachnaeus litus)		Greater spray volume should insure greater uniformity of coverage.
11 4	Blue Green Citrus Root		A pre- and post-application irrigation may aid in the uniformity of
	Weevil		coverage as well.
11 -	Pachnaeus opalus)		BIFENURE EC protects citrus tree roots from Diaprepes and other
	Brown Leaf Notcher	*	citrus root weevil feeding by forming a barrier which provides
	Epicaerus mexicanus)		contact activity on newly hatched larvae (neonates). As citrus root
	Little Leaf Notcher		weevil eggs hatch in new foliage, neonates fall to the soil
	'Artipus floridanus)		surface beneath the tree and come in contact with BIFENTURE EC
!	Fireant	6.4 – 16 fl oz	as they attempt to burrow into the root zone. Disturbance of the soil
11 -	Solenopsis spp.)	(0.1 - 0.25  lb ai)	beneath trees should be minimized.
	Asian Cockroach	per acre	Timing of BIFENTURE EC applications is critical. Current
	Blattella asahinae)	<u></u>	information suggests that peak emergence of adult Diaprepes Weevil
1) 4	Brancona adaminos		varies by citrus growing region and these emergence peaks can be
H			dramatically affected by environmental factors, such as soil
			moisture.
			Typically, two peaks are observed for Diaprepes, first in spring then
			late summer or early fall. Southern Blue Green and Blue Green
			Citrus Weevils and Fuller Rose Beetle typically exhibit a single
			emergence peak in the spring. Brown and Little Leaf Notchers
1			typically exhibit three emergence peaks, spring, summer, and fall.
			Since emergence varies seasonally and by location, timing of
			BIFENTURE EC application can be accurately forecast by
			observing adults. Adults are most active early morning and late
11			afternoon; numbers can be estimated by trapping throughout spring
			and summer (emergence periods). Egg laying will occur for 8 to 10
Ш	•		weeks following adult emergence from the soil; larval invasion of
-			the soil will begin 2-3 weeks following adult emergence. It is
-			critical to have the BIFENTURE EC soil barrier in place prior to
	•		drop of the neonates.
			BIFENTURE EC is one of several effective tools in an integrated
11			pest management program for Citrus Root Weevils. Application of
			BIFENTURE EC should be used in conjunction with good cultural
			practices, biological control of larvae and foliar control of adults.
			Consult local university extension personnel for current information
$\parallel$			to protect citrus trees from Citrus Root Weevils and other pests.
HL.			to protect of the troop from Old ab Root Woodills and Outer peats.

# COTTON

	DOS	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
European Corn Borer Soybean (Banded) Thrips	0.02-0.10	1.3-6.4	Bifenture EC may be applied in water or refined vegetable oil (soybean/cottonseed).
Tobacco Thrips			Application in Water: Apply in a minimum of 5 gallons per acre with ground equipment or 1 gallon per acre by aircraft. When applying by air, 1 quart of emulsified oil may be substituted for one quart of water in the finished spray.
Boll Weevil Bollworm Cabbage Looper Cotton Aphid Cotton Fleahopper Cotton Leafperforator Cutworms Fall Armyworm Plant Bugs Saltmarsh Caterpillar Southern Garden Leafhopper Stink Bugs Tobacco Budworm Whitefly	0.04-0.10	2.6-6.4	ULV Application: Apply the recommended rate of Bifenture EC in refined vegetable oil in a minimum of 1 quart of finished spray per acre with aircraft calibrated to give adequate coverage.  To Control Boll Weevil: Apply Bifenture EC at an interval of 3 to 4 days until pest numbers are reduced to acceptable levels.  To Control Mites and Aphids: Apply when pests first appear. Repeat as necessary to maintain control. Higher rates will be required once a damaging threshold is established.
Yellow Striped Armyworm  Beet Armyworm  Carmine Spider Mite  Lygus spp.  Pink Bollworm  Twospotted Spider Mite	0.06-0.10	3.8-6.4	Do not apply more than 0.5 lb. a.i. per acre per season.  Do not make more than 10 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing season. Synthetic pyrethroid products include Ambush®, Ammo®, Asana® XL, Baythroid®, Capture®, Danitol®, Karate®, Mustang®, and Scout X-TRA®.
		·	Do not graze livestock in treated areas or cut treated crops for feed.  Do not apply within 14 days of harvest.

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (AT PLANT USE)

PEST	DOS	AGE		REM	ARKS AND I	RESTRICTION	IS	
Corn Rootworm, Larvae	0.0046	0.30	* * *			_	furrow. Position the	
Northern	lb. a.i.	fluid	1 4 *	_	-	_	wheel centered over the	
Southern	per	ounces	1 .				eeds per acre. Apply in	
Western	1,000	per	a minimum	of 3 gallons of	linisned spray	per acre.		
•	linear	1,000	3.51 50.5	70 11	C		7713. (1	
	feet of	linear					marner. Fill the spray	
	row	feet of					lizer, add the proper	
,		row	1				ertilizer. Provide	
			mixture.	gitation during i	nixing and app	dication to main	tain a uniform spray	
Army Cutworm	0.0023	0.15 to		*				
Cutworm Species	to	0.30	Application	s of Bifenture I	EC alone or in	recommended ta	nk mixtures, in	
Grubs	0.0046	fluid				· · · · · · · · · · · · · · · · · · ·	. A jar compatibility	
Seed Corn Beetle	lb. a.i.	ounces	1	•			re EC and fertilizer to	
Seed Corn Maggot	per	per		•		stant agitation sh	nould be maintained	
True Armyworm or	1,000	1,000	during mixi	ng and applicat	ion.		i	
Armyworm Species	linear	linear					,	
Wireworm	feet of	feet of	1	Do not apply to soil where there is greater than 30% cover of crop residue				
	row	row	remaining.					
	Do not gr of treatme				reated area or (	cut treated crops	for feed within 30 days	
		Do not ap applicatio			l lb. active per	acre per season	as an at plant	
	Do not app	ly within 30 da	ys of harvest.					
Row Spacings (inches)				40	38	36	30	
Bifenture EC (lb. a.i. per ac		····		0.060	0.064	0.069	0.080	
Bifenture EC (formulated p	roduct, ounc	es per acre	)	3.9	4.1	4.4	5.12	

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED Pre-Plant Incorporated (PPI) and Pre-Emergence (PRE)

PEST	DOS	AGE	REMARKS AND RESTRICTIONS
Armyworm spp.	0.047 to	3 to 4 fl.	The 3-4 oz./A rate must be applied as PPI and can be tankmixed and
Black Cutworm	0.062 lb.	oz./A Pre-	applied with PPI herbicides. Incorporation of Bifenture EC should not be
Seedcorn Maggot	a.i./A Pre-	Plant	any deeper than the intended planting depth and no deeper than 3 inches.
Stalkborer	Plant	Incorporated	Incorporation depth should be close to the intended seed planting depth.
White Grub	Incorporated	(PPI)	
Wireworm	(PPI)		
Armyworm spp.	0.040 lb.	2.56	The 2.56 oz/A rate may be applied PRE and can be tankmixed and applied
Black Cutworm	a.i./A Pre-	fl. oz. /A	with PRE herbicides.
Stalkborer	emergence	Pre-	
	(PRE)	emergence	
		(PRE)	

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (FOLIAR USE)

-	DOSA	GE	
PEST_	LB AJ/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids Army Cutworm Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm Adults Cucumber Beetle Adult Cutworm Species European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Greenbug Japanese Beetle Adult Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southwestern Corn Borer Stinkbugs Tarnished Plant Bug True Armyworm or Armyworm Species Webworms Western Bean Cutworm Yellowstriped Armyworm			REMARKS AND RESTRICTIONS  Apply in a minimum of 2-5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment. To improve control by aircraft, use 5 gallons of finished spray per acre particularly when initial populations are heavier than normal. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  To Control Ear-Attacking Pests: Apply Bifenture EC just before silking and repeat as necessary to maintain control.  Southwestern Corn Borer, European Corn Borer: Make application for corn borer control with initial application at or shortly before egg hatch.  For Control of Other Insect Pests: Apply when pests first appear and repeat as necessary.  For Control of Mites: Apply for Banks Grass Mite control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.  For Twospotted Spider Mite and Carmine Mite Control: Apply when colonies first form prior to leaf damage or discoloration and before wide-spread mite dispersal throughout the canopy.  Higher rates will be necessary for heavier initial populations and corn under heat or drought stress. Field experience with
Banks Grass Mite Carmine Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	dimethoate at 0.5 lb. a.i. per acre in tank mixture has demonstrated good control under these conditions.  For Mite Control in Texas, New Mexico, Oklahoma, and Arizona: Apply in a minimum of 5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment.
			Do not apply more than 0.3 lb. active per acre per season including PRE & PPI, at plant plus foliar applications.  Do not graze livestock in treated areas or cut treated crops for feed within 30 days of the last application.  Use of ultra low volume (ULV) application on corn is prohibited.  Do not make aerial or ground applications to corn if heavy rainfall is imminent.
			Use of Bifenture EC Agricultural Insecticide on corn is prohibited in all coastal counties.  Do not apply within 30 days of harvest.

# SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (AT PLANT USE)

PEST	DOSA	AGE		REM	IARKS AND I	RESTRICTIO	NS
Corn Rootworm, Larvae Northern Southern Western	0.0046 lb. a.i. per 1,000 linear feet of row	0.30 fluid ounces per 1,000 linear feet of row	Apply as a 5 to 7 inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe, in front of the press wheel centered over row. Use the table below to determine the Bifenture EC needs per acre. Apply a minimum of 3 gallons of finished spray per acre.  Mix Bifenture EC with water or fertilizer in the following manner. Fill the spr tank approximately one-half full with water or liquid fertilizer, add the proper amount of Bifenture EC then add the rest of the water or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture.				
Army Cutworm Cutworm Species Grubs Seed Corn Beetle Seed Corn Maggot True Armyworm or Armyworm Species Wireworm	0.0023 to 0.0046 lb. a.i. per 1,000 linear feet of	0.15 to 0.30 fluid ounces per 1,000 linear feet of	Applications of Bifenture EC alone or in recommended tank mixtures, in conjunction with in furrow pop-up fertilizers may be used. A jar compatibility test should be performed with appropriate ratio of Bifenture EC and fertilizer to ensure mixture will stay in solution. Constant agitation should be maintained during mixing and application.  Do not apply to soil where there is greater than 30% cover of crop residue				
	row	row	Do not apply within 30 days of harvest.  Do not graze livestock in treated area or cut treated crops for feed within 30 days of treatment.  Do not apply more than 0.1 lb. active per acre per season as an at plant application.				
Row Spacings (inches)			- <del>T</del>	40	38	36	30
Bifenture EC (lb. a.i. per ac	re)			0.060	0.064	0.069	0.080
Bifenture EC (formulated p	roduct, oun	ces per acr	e)	3.9 .	4.1	4.4	5.12

# SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (FOLIAR USE)

	DOSA	GE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids Army Cutworm Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm Adults Cucumber Beetle Adult Cutworm Species European Corn Borer Fall Armyworm Flea Beetle	<b>LB AI/A</b> 0.033-0.10	FL OZ/A 2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  To Control Ear-Attacking Pests: Apply Bifenture EC when silking begins and repeat as necessary to maintain control.  Southwestern Corn Borer, European Corn Borer: Make 2 applications for corn borer control with the initial
Grasshoppers Greenbug Japanese Beetle Adult Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southwestern Corn Borer Stinkbugs Tarnished Plant Bug True Armyworm or Armyworm Species Webworms Western Bean Cutworm Yellowstriped Armyworm			application at or shortly before egg hatch.  For Control of Other Insect Pests: Apply when pests first appear and repeat as necessary.  For Control of Mites: Apply for Banks Grass Mites control when colonies first form from prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.  For Twospotted Spider Mite and Carmine Mite Control: Apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy.
Banks Grass Mite Carmine Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	Higher rates will be necessary for heavier initial populations and corn under heat or drought stress.  Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated product) per acre per season.  Do not graze livestock in treated areas of cut treated crops for feed within 1 day of the last application.  Use of ultra low volume (ULV) application on corn is prohibited.  Do not make aerial or ground applications to corn if heavy rainfall is imminent.
			Use of Bifenture EC on corn is prohibited in all coastal counties.  Do not apply within 1 day of harvest.

# CUCURBITS

		DOSA	GE	
CROP	PEST	LB AI/A	FL	REMARKS AND RESTRICTIONS
CROI	1251		OZ/A	
Chayote (fruit)	Aphids	0.04-0.10	2.6-6.4	Apply in a minimum of 5 gallors of finished spray
Chinese waxgourd	Armyworms		·	per acre by air or in a minimum, of 20 gallons per
(Chinese preserving	Cabbage Looper			acre with ground equipment. When applying by
melon)	Corn Earworm			air, 1-2 quarts of emulsified oil many be substituted
Citron melon	Cucumber Beetles			for 1-2 quarts of water in the firnished spray.
Cucumber	Cutworm			Thorough coverage is essential to achieve control.
Gherkin	Grasshopper			Thorough coverage is essential to demove control.
Gourd, edible	Leafhoppers			Do not apply more than 0.3 lb. a.i. (19.2 ounces
(includes hyloan,	Melonworm			formulated product) per acre per season.
cucuzza), (Luffa	Pickleworm			i formulated product) per acre per season.
spp.) (includes	Plant Bug		•	Do not make more than two applications after
hechima, Chinese	Rindworm		•	bloom.
okra), (Momordica	Squash Bugs			oloom.
1 1				Do not make applications loss than 7 days and
spp.) (includes balsam apple,	Squash Vine Borer Stink Bugs			Do not make applications less than 7 days apart.
	Tobacco Budworm			Do not apply within 2 days of howest
balsam pear, bitter melon, Chinese	100acco pudwomii			Do not apply within 3 days of harvest.
		ĺ		
cucumber)				
Muskmelon (hybrids				
and/or cultivars	,			
of Cucumis melo)	0 : 15:	0.00.010	5 10 6 4	4
(includes	Carmine Mite	0.08-0.10	5.12-6.4	
true cantaloupe,	Banks Grass Mite			
Cantaloupe,	Lygus spp			
casaba, crenshaw	Twospotted Spider	ļ		
melon, golden,	Mite			
pershaw melon,	Whitefly			
honeydew melon,	•			•
honey balls, mango				
melon, Persian	•			
melon, pineapple				
melon, Santa				
Claus melon, and			1	
snake melon)				
Pumpkin (Cucurbita spp.)	·			
Squash, summer				
(includes crookneck				•
squash, scallop				
squash, straightneck			,	
squash, vegetable				
marrow, zucchini)		1		
Squash, winter				
(includes butternut				
squash, calabaza,				
hubbard squash	•			
(C. mixte; C. pepo),				
includes acom	•			
squash, spaghetti				
squash)		]		
Watermelon				
(includes hybrids and				
or varieties of Citrullis				·
spp.)				
L SPP.)		<del></del>	1	

# **EGGPLANT**

	DOS	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Armyworms	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre by air or in a
Colorado Potato Beetle			minimum of 10 gallons per acre with ground equipment. When applying by
Corn Earworm			air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in
Cucumber Beetle			the finished spray. Thorough coverage is essential to achieve control.
European Corn Borer			
Flea Beetle			Do not make applications less than 7 days apart.
Cabbage Looper		•	
Plant Bug			Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated product) per
Stink Bug			acre per season.
Thrips			
Tomato Pinworm		* .	Do not apply within 7 days of harvest.
Tomato Hornworm			
Vegetable Leafminer			
Whitefly			
Banks Grass Mite	0.08-0.10	5.12-6.4	
Carmine Mite			
Lygus spp.			
Pacific Spider Mite			
Twospotted Spider			·
Mite			

# GRAPES

	DOS	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Eastern Grape Leafhopper Variegated Leafhopper Western Grape Leafhopper	0.05 to 0.10	3.2 to 6.4	Apply in a minimum of 10 gallons of finished spray by air or in a minimum of 25 gallons of finished spray with ground equipment. When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray.
Black Vine Weevil Glasywinged Sharpshooter Twospotted Spider Mite	0.10	6.4	Thorough coverage is essential to achieve control.  When pest pressure is moderate to severe, use higher rate.  Do not apply more than 0.10 lb. a.i. per acre per season.  Do not apply within 30 days of harvest.

# HOPS

	DO	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.06-0.1	3.8-6.4	Do not exceed 0.1 lb. a.i. per acre per application.
Armyworms			Do not exceed 0.3 lb. a.i. per acre per season.
Cutworms			
Leafrollers			A spray interval of 21 days between applications must be maintained.
Loopers			
Root Weevils	0.05-0.1	3.2-6.4	A 14 day pre-harvest interval must be observed.
			·

Twospotted spider mite	0.1	6.4	Application by ground: For best results, full coverage is essential. Early season recommend 100-150 gallons of spray per acre. Late season recommend 200-250 gallons of spray per acre.
			For Root Weevil control, make a directed spray to the base of the plant. Spray up the vine 3 feet and the soil surface 1.5 to 2 feet on either side of the plant.
			Application by air for late season control of twospotted spider mites: Apply no less than 6.4 oz (0.1 lb. a.i.) per application in a minimum of 10 gallons per acre.
			Use of ultra low volume (ULV) application on hops is prohibited.

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	DOS	SAGE	<u>.</u> .
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.10	2.1-6.4	Apply in water as necessary for insect control using a minimum of 15
Armyworms			gallons of finished spray per acre with ground equipment and 5 gallons per
Corn Earworm			acre by air. When applying by air, 1-2 quarts of emulsified oil may be
Cucumber Beetles			substituted for 1-2 quarts of water in the finished spray. Thorough coverage
Cutworms			is essential to achieve control.
Diamondback Moth			
Flea Beetles			Do not make applications less than 7 days apart.
Imported			,
Cabbageworm			A maximum of 0.5 lb. a.i. may be applied per acre per season.
Leafhoppers	1		
Loopers			Do not apply within 7 days of harvest.
Salt Marsh Caterpillar			
Stink Bug spp.	1		
Tobacco Budworm			
Whitefly	·		
Carmine Mite	0.08-0.10	5.12-6.4	<del>-</del>
Lygus, spp.			
Twospotted Spider			
Mite			

# **PEARS**

	DOS	AGE	
PEST	LB	$\mathbf{FL}$	REMARKS AND RESTRICTIONS
ĺ	AJ/A	OZ/A	
Aphids	0.04 to	2.6 to	Application by ground: Apply as a dilute (minimum of 200 gallons of finished spray per acre)
Coddling	0.2	12.8	or concentrate (minimum of 50 gallons of finished spray per acre) spray in sufficient water to
Moth			provide thorough coverage.
Cutworms			
.Green			Application by air: Apply the specified dosage in a minimum of 10 gallons per acre by air.
Fruitworm			
Leafhoppers			Do not apply more than 0.5 lb. active per acre per season with no more than 0.45 lb. active per
Leafminers			acre applied after petal fall.
Leafrollers			
Lygus spp.		,	Apply as necessary to maintain control using a minimum of 30 day spray interval.
Plant Bugs	]		
Plum Curculio			Do not graze livestock in treated orchards or cut treated cover crops for feed.
San Jose			Do not apply within 14 days of harvest.
Scale			
(Crawlers)	i		
Stink Bugs			

Tarnished Plant Bugs			
Twospotted	0.06 to	8.8 to	
Spider	0.2	12.8	
Mite			
Yellow Mite			· ·
European Red	0.08 to	5.12 to	
Mite	0.2	12.8	

# PEPPERS, BELL AND NON-BELL

	DOSA	GE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Armyworms Corn Earworm Cucumber Beetles Cutworms	0.033-0.1	2.1-6.4	Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply with ground equipment using a minimum of 10 gallons of finished spray per acre or a minimum of 2 gallons per acre by aircraft.
European Corn Borer			Do not make applications less than 7 days apart.
Flea Beetles Leafminers			Do not apply more than 0.20 lb. a.i. per acre per season.
Loopers Pepper Weevil Thrips Whitefly			Do not apply within 7 days of harvest.
Broad Mite Carmine Mite Lygus spp. Twospotted Spider Mite	0.8-0.10	5.12-6.4	

# **SPINACH**

PESTS	DOSAGE	REMARKS AND RESTRICTIONS
Armyworms	2.1 to 6.4 ounces (0.033 to	For control of whiteflies apply foliar treatments of Bifenture EC by
Colorado Potato Beetle	0.10 lb. active) per acre	ground or air at rates of up to 0.4 pt. (0.1 lb. active) per acre at minimum
Corn Earworm		7-day intervals up to a maximum of 4 applications.
Cucumber Beetles		
Cutworms		For control of fire ants apply Bifenture EC to the soil (at planting) or as a
European Corn Borer		foliar treatment by ground or air at rates of up to 0.4 pt. (0.1 lb. active) per
Flea Beetles		acre at minimum 7-day intervals up to a maximum of 4 applications.
Leafminers	•	•
Loopers		Apply the specified dosage in 5-50 gallons of finished spray per acre by
Pepper Weevil		air or 10-50 gallons of finished spray per acre by ground.
Tomato Pinworm		
Tomato Hornworm		Do not make applications less than 7 days apart.
Thrips		
Whitefly		
Broad Mite	5.12 to 6.4 ounces (0.08 to	Do not apply more than 0.4 lb. a.i. per acre per season.
Banks Grass Mite	0.10 lb. active) per acre	Do not apply more dual of the unit per note per souson.
Carmine Mite		Do not apply within 40 days of harvest.
Fire Ants		bo not apply within 40 days of harvest.
Lygus spp.	·	
Twospotted Spider Mite		
Pacific Spider Mite		·

# SUCCULENT PEAS AND BÉANS

		DOSAGE				
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS		
Pea (Pisum spp.)	Flea Beetle	0.025-0.10	1.6-6.4	Apply in a minimum of 2 gallons of finished spray per acre by		
Dwarf pea	Grasshoppers		}	air or in a minimum of 10 gallons per acre with ground		
Edible-pod pea	Aster			equipment. When applying by air, 1-2 quarts of emulsified oil		
English pea	Leafhopper			may be substituted for 1-2 quarts of water in the finished spray.		
Garden pea	Leafhoppers			Thorough coverage is essential to achieve control.		
Green pea	Alfalfa	0.033-0.10	2.1-6.4	1		
Snow pea	Caterpillar			Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated		
Sugar snap pea	Aphids			product) per acre per season.		
Pigeon pea	Bean Leaf					
Bean (Phaseolus	Beetle			Do not apply within 3 days of harvest.		
spp.):	Beet Armyworm			· ·		
Broadbean	Cloverworm					
(succulent)	Corn Earworm	1	1			
Lima bean	Corn Rootworm		[	·		
(green)	(Adult)					
Runner bean	Cucumber					
Snap bean	Beetles					
Wax bean	Cutworms					
Bean (Vigna spp.):	European Corn					
Asparagus bean	Borer					
Blackeyed pea	Fall Armyworm					
Chinese longbean	Japanese Beetle		-			
Cowpeas	(Adult)					
Moth bean	Loopers					
Southern pea	Pea Leaf Weevil					
Yardlong bean	Pea Weevil					
Jackbean	Plant Bug					
Soybean	Sap Beetle	1				
(immature seed)	Southern		1			
Sword bean	Armyworm					
	Stink Bugs					
	Tarnished Plant					
	Bug					
	Thrips	}	1			
	Webworms					
	Western Bean	-				
	Cutworm					
	Yellowstriped					
	Armyworm					
	Whitefly					
	Banks Grass	0.08-0.10	5.12-6.4			
	Mite			·		
-	Carmine Mite					
	Lygus spp.					
	Twospotted					
	Spider Mite	1	1			

## TOMATOES

r	TOMATOES	
PEST	DOSAGE	REMARKS AND RESTRICTIONS
Aphids	2.1-5.2 fluid ounces (0.033-0.08	Apply in water as necessary for insect control
Armyworms – Including:	lb. active) per acre	using a minimum of 15 gallons of finished spray
Beat Armyworm, Fall		per acre with ground equipment.
Armyworm, Southern		
Yellowstriped Armyworm		Thorough coverage is essential to achieve
Bean Leaf Beetle		control.
Cabbageworm		·
Carmine Mite		Do not make applications less than 10 days
Cloverworm		apart.
Corn Earworm		_
Corn Rootworm		A maximum of 4 applications may be applied
Cucumber Beetles		per season.
Cutworms	·	
Diamondback Moth		Do not apply within 1 day of harvest.
European Corn Borer	•	
Flea Beetles		
Flea Hopper		
Grasshopper		
Japanese Beetle (Adult)		•
Leafhoppers		
Loopers		
Lygus spp.	· ·	
Melonworm		
Pea Weevil		
Pea Leaf Weevil	•	
Pickleworm		
Plant Bug		
Rindworm		
Salt Marsh Caterpillar		
Sap Beetle		
Seedpod Weevil		
Squash Bugs		
Stink Bug spp.		
Tobacco Budworm		
Tarnished Plant Bug		
Thrips		
Two Spotted Spider Mite		
Whitefly		

### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of United Phosphorus, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold United Phosphorus, Inc. and Seller harmless for any claims relating to such factors.

United Phosphorus, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or United Phosphorus, Inc., and Buyer and User assume the risk of any such use. UNITED PHOSPHORUS, INC. MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent allowed by law, United Phosphorus, Inc. or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF UNITED PHOSPHORUS, INC. AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF UNITED PHOSPHORUS, INC. OR SELLER, THE REPLACEMENT OF THE PRODUCT.

United Phosphorus, Inc. and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of United Phosphorus, Inc.

Ammo, Capture, Mustang – trademarks of FMC Corporation Ambush, Karate – trademarks of a Syngenta Group Company Asana – trademark of E.I. duPont de Nemours & Company Baythroid – trademark of Bayer Danitol – trademark of Sumitomo Chemical Company, Ltd. Scout Xtra – trademark of Hoechst Schering Agrevo S.A.

EPA-Approved-8/25/04 Rev. 4/05-11/04

#### RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

## BIFENTURETM EC AGRICULTURAL INSECTICIDE

# BIFENTURE EC AGRICULTURAL INSECTICIDE IS NOT FOR SALE OR USE IN CALIFORNIA.

Active Ingredient:	By Wt.	•	-
Bifenthrin* (2 methyl[1,1'-biphenyl]-3-yl) methyl 3-1-propenyl)-2,2-dimethylcyclopropanecarboxylate	25.1%		•:•
TOTAL			•
*Cis isomers 97% minimum, trans isomers 3% maxim **Contain xylene range aromatic solvents	num.	30 0 0 0 0 0 0	• • • •
This product contains 2 pounds active ingredient per g	gallon.	• • • • •	•
KEEP OU	T OF REACH OF CHILDREN		,
	WARNING		•
•	AVISO		•••

This label must be in the possession of the user at the time of application.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

	FIRST AID
If swallowed	Call a poison control center or doctor immediately for treatment advice.
	Do not induce vomiting unless told to do so by the poison control center or doctor.
	Do not give any liquid to the person.
	<ul> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
If in eyes	Hold eye open and rinse slowly and gently with water for 15-20 minutes.
	• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
	Call a poison control center or doctor for treatment advice.
If inhaled	Move person to fresh air.
	• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably
	by mouth-to-mouth, if possible.
	• Call a poison control center or doctor for further treatment advice.
If on skin or	Take off contaminated clothing.
clothing	Rinse skin immediately with plenty of water for 15-20 minutes.
	• Call a poison control center or doctor for treatment advice.
	NOTE TO PHYSICIAN

This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR EMERGENCY MEDICAL ASSISTANCE, CALL THE NATIONAL PESTICIDE INFORMATION CENTER 1-800-858-7378.

> FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.



Manufactured for: United Phosphorus, Inc. 423 Riverview Plaza • Trenton, NJ 08611 1-800-247-1557 • www.upi-usa.com

EPA Reg. No. 70506-57 EPA Est. No. Net Contents:

# PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals Warning

WARNING. May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield or safety glasses). Harmful if absorbed through skin or inhaled. Avoid breathing spray mist. Avoid contact with skin. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

#### Personal Protective Equipment (PPE):

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

# Handlers who may be exposed to the dilute through application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber or Viton
- Shoes plus socks

#### Handlers who may be exposed to the concentrate through mixing, loading, application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber, or Viton
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### **Environmental Hazards**

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

#### Physical/Chemical Hazards

Do not use or store near heat or open flame.

#### DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**Resistance**: Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control in your area.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- · Coveralls.
- Chemical-resistant gloves, such as barrier laminate or nitrile rubber or neoprene rubber or Viton.
- · Shoes plus socks.

### STORAGE AND DISPOSAL

**Pesticide Storage:** Do not freeze. Do not store below 40°F. If crystals are observed, warm material to above 60°F by placing in warm location. Shake or roll container periodically to redissolve solids.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.

To Confine Spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Container Disposal: Metal or Plastic Container: Triple rinse (or equivalent), then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

Returnable, Refillable Containers: Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

# **Chemigation Use Directions**

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

For LEPA irrigation a minimum of 0.75 inch of water per acre is recommended. Where non-emulsified oils are used as the diluent, 1 to 2 pints per acre is recommended.

Results from utilizing chemigation have been variable and depend upon the set up and calibration of equipment. Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. Contact your State Agricultural Extension Service specialists, equipment manufacturers or other experts for consultation on the suitability of the equipment set up to obtain effective control of the target insect pests.

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease application during a mechanical stoppage may result in undesirable residues to adjacent areas.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Bifenture EC Agricultural Insecticide should be applied continuously for the duration of the water application. Bifenture EC Agricultural Insecticide should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation, a minimum of 0.5 inch per acre of irrigation water is recommended. Agitation generally is not required when a suitable diluent is used. A diluent test should be conducted to ensure that phase separation will not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

#### **Rotational Crops**

Crops for which bifenthrin tolerances exist may be rotated at any time. All other crops may be rotated 30 days after the last application.

#### Tank-Mixture

Bifenture EC Agricultural Insecticide may be applied in tank mixtures with other products approved for use on registered crops.

Observe all restrictions and precautions which appear on the labels of these products. Test for compatibility of products before mixing.

#### **Application Instructions**

Rate of application is variable according to pest pressure, timing of sprays, and field scouting. Use lower rates under light to moderate infestations; higher rates under heavy insect pressure and for mite control. Arid climates generally require higher rates.

Cultivation within 10 feet of a water body is prohibited to allow for the growth of a vegetated filter strip.

In New York State this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aeria1 equipment) of coastal marshes or streams that drain into coastal marshes.

#### Spray Drift Precautions

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMANENT STREAMS; MARSHES OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.

Do not apply by ground equipment within 25 feet, or by air within 150 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds. Increase the buffer zone to 450 feet when ultra low volume (ULV) application is made in cotton. Use of ultra low volume (ULV) application on corn and hops is prohibited.

For aerial applications, the spray boom should be mounted on the aircraft so as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of wing span or rotor diameter.

Use the largest droplet size consistent with good pest control. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.

Spray should be released at the lowest height consistent with pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided.

Make aerial or ground applications when the wind velocity favors on target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid applications when wind gusts approach 15 mph.

Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

Do not cultivate within 10 feet of the aquatic areas so as to allow growth of a vegetative filter strip.

Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift to aquatic areas. Avoid spraying during conditions of low humidity and/or high temperature.

Do not make aerial or ground applications during temperature inversions. Do not make aerial or ground applications to corn if heavy rainfall is imminent. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

### INDEX TO CROPS LISTED ON THIS LABEL

Artichokes

Brassicas

Caneberries

Canola, Crambe, Rapeseed

Citrus (Not for this use in Florida)

Citrus (For use in Florida only)

Cotton

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (At Plant Use)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (PRE & PPI)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (Foliar Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (At Plant Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (Foliar Use)

Cucurbits

Eggplant

Grapes

Hops

Lettuce, Head

Pears

Peppers, Bell and Non-Bell

Spinach

Succulent Peas and Beans

Tomatoes

## **ARTICHOKES**

	DOS	AGE	
· PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Artichoke Plume Moth Cribrate Weevil	0.10	6.4	Apply when pest population reaches damaging threshold and repeat as necessary to maintain control, but not more often than 15 day intervals.
Chorac weevii			Application by ground: Apply a full cover spray in a minimum of 75 gallons of finished spray per acre.
			Application by air: Apply specified dosage in a minimum of 10 gallors per acre.
			Do not exceed 0.5 lb. a.i. /A per season.
			A 5-day preharvest interval must be observed.

## BRASSICAS

		DOSA	AGE	
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Head and Stem Brassica Vegetables including: Broccoli Brussels Sprouts Cabbage Cauliflower Cavalo Broccolo Chinese Broccoli (gai lon, white flowering broccoli) Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy) Kohlrabi	Aphids Armyworms Corn Earworm Crickets Cucumber Beetles Cutworms Diamondback Moth Flea Beetles Ground Beetles Imported Cabbageworm Leafhoppers Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  Do not apply more than 0.5 lb a.i. (1 quart) per acre per season.  Do not make more than 5 applications after bloom.  Do not make applications less than 7 days apart.  Do not apply within 7 days of harvest.
	Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	

## **CANEBERRIES**

		DOSA	GE	
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Caneberries	Leafrollers	0.05-0.10	3.2-6.4	Apply by air or ground equipment using sufficient water to
including:	Orange Tortrix			obtain full coverage of foliage (minimum of 10 gallons per
Bingleberries	Root Weevils			acre by air and 50 gallons per acre by ground).
Blackberries				
Dewberries				One application may be made pre-bloom and a second
Loganberries			,	application may be made post bloom.
Lowberries		•		
Marionberries				Do not exceed 0.2 lb. a.i. /A per season.
Olallieberries				
Raspberries				Do not apply within 3 days of harvest.
Youngberries				
	Spider Mites	0.10	6.4	

# CANOLA, CRAMBE, RAPESEED

We have also	DC	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.04	2.1-2.6	Apply in a minimum of 2 gallons of finished spray per acre by air or in a
Armyworms			minimum of 10 gallons per acre with ground equipment. When applying
Cutworms			by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of
Diamondback			water in the finished spray. Thorough coverage is essential to achieve
Moth			control.
Flea Beetle			
Flea Hopper			Do not apply more than 0.08 lb. a.i. (5.12 ounces formulated product) per
Grasshopper	ļ		acre per season. Do not make applications less than 14 days apart.
Loopers		÷	
Other			Do not apply within 35 days of harvest.
Lepidopterous			
Larvae			
Plant Bug			,
Seedpod Weevil			•
Stink Bugs			
Thrips			
Whitefly			

## **CITRUS**

(Not for this use in Florida)

PEST	DOSAGE	REMARKS AND RESTRICTIONS
Asian Cockroach	16-32 ounces (0.25-0.50 lb. active)	Apply to individual citrus resets, when not in solid
Diaprepes Root Weevil (Diaprepes	per acre	planted rows, using hand-gun or shielded sprayer.
abbreviatus)		Peak emergence of Diaprepes root weevil
Fire Ants		generally occurs in the spring. Depending on
		weather conditions, a minor emergence of
		Diaprepes root weevil may also occur in the fall.
·		·
	•	If the citrus grove to be treated is in an area where
		weather conditions are conducive to primary
		emergence occurring in the spring, 32 fluid ounces
		formulated product should be used to obtain the
		longest residual management of Diaprepes root
·		weevil.
	·	
		If the citrus grove to be treated is in an area where
		weather conditions will promote more than one
	·	peak of pest emergence, 16 fluid ounces
		formulated product can be applied early season
		and 16 fluid ounces formulated product can be
		applied later in the season.
	·	If emergence extends beyond the residual
		protection of Bifenture EC, grower is advised to
		use additional management strategies (i.e. foliar
		adult control or soil larvae control such as
		nematodes). Contact your state agricultural
		Extension Specialist as to the recommendation
		suited for local conditions.
		barrow for room contactions.
		Do not apply through irrigation systems.
	. *	Do not allow any application of Bifenture EC to
		contact fruit or foliage.
		Do not apply more than a total of 32 fluid ounces
		of formulated product (0.5 lb. a.i.) per acre per
	1.	year.
		Apply the specified dosage in a minimum of 30
		gallons of finished spray per acre.
		Ground application only. Do not apply by air.
		Do not apply within 1 day of harvest.

## **CITRUS**

(for use in Florida)

DDCCC	DOGACE	DEMADIZE AND DESTRICTIONS
PESTS Diaprepes Root Weevil	<b>DOSAGE</b> 16 – 32 fl oz	REMARKS AND RESTRICTIONS  Apply BIFENTURE EC by ground equipment to bare soil beneath
(Diaprepes abbreviatus)	(0.25 - 0.5  lb ai)	citrus trees. BIFENTURE EC must be uniformly applied from the
Southern Blue Green Citrus	per acre	trunk to the drip line of the tree; apply in a minimum of 40 gallons of
Root Weevil	per acre	dilute spray per acre.
Pachnaeus litus)		Greater spray volume should insure greater uniformity of coverage.
Blue Green Citrus Root		A pre- and post-application irrigation may aid in the uniformity of
Weevil	1	coverage as well.
(Pachnaeus opalus)		BIFENURE EC protects citrus tree roots from Diaprepes and other
Brown Leaf Notcher		citrus root weevil feeding by forming a barrier which provides
(Epicaerus mexicanus)		contact activity on newly hatched larvae (neonates). As citrus root
Little Leaf Notcher		
		weevil eggs hatch in new foliage, neonates fall to the soil surface beneath the tree and come in contact with BIFENTURE EC
<i>(Artipus floridanus)</i> Fireant	6.4 – 16 fl oz	
r ireani (Solenopsis spp.)	(0.1 - 0.25  lb ai)	as they attempt to burrow into the root zone. Disturbance of the soil beneath trees should be minimized.
(Soienopsis spp.) Asian Cockroach	1 '	
	per acre	Timing of BIFENTURE EC applications is critical. Current
(Blattella asahinae)		information suggests that peak emergence of adult Diaprepes Weevi
		varies by citrus growing region and these emergence peaks can be
		dramatically affected by environmental factors, such as soil
		moisture.
		Typically, two peaks are observed for Diaprepes, first in spring then
		late summer or early fall. Southern Blue Green and Blue Green
		Citrus Weevils and Fuller Rose Beetle typically exhibit a single
		emergence peak in the spring. Brown and Little Leaf Notchers
		typically exhibit three emergence peaks, spring, summer, and fall.
		Since emergence varies seasonally and by location, timing of
		BIFENTURE EC application can be accurately forecast by
•		observing adults. Adults are most active early morning and late
		afternoon; numbers can be estimated by trapping throughout spring
		and summer (emergence periods). Egg laying will occur for 8 to 10
		weeks following adult emergence from the soil; larval invasion of
		the soil will begin 2-3 weeks following adult emergence. It is
,		critical to have the BIFENTURE EC soil barrier in place prior to
		drop of the neonates.
		BIFENTURE EC is one of several effective tools in an integrated
		pest management program for Citrus Root Weevils. Application of
•		BIFENTURE EC should be used in conjunction with good cultural
		practices, biological control of larvae and foliar control of adults.
		Consult local university extension personnel for current information
		to protect citrus trees from Citrus Root Weevils and other pests.

## COTTON

	DOS	AGE			
PEST	LB AJ/A	FL OZ/A	REMARKS AND RESTRICTIONS		
European Corn Borer Soybean (Banded) Thrips Tobacco Thrips	0.02-0.10	1.3-6.4	Bifenture EC may be applied in water or refined vegetable oil (soybean/cottonseed).		
			Application in Water: Apply in a minimum of 5 gallons per acre with ground equipment or 1 gallon per acre by aircraft. When applying by air, 1 quart of emulsified oil may be substituted for one quart of water in the finished spray.		
Boll Weevil Bollworm Cabbage Looper Cotton Aphid Cotton Fleahopper Cotton Leafperforator Cutworms Fall Armyworm Plant Bugs Saltmarsh Caterpillar Southern Garden Leafhopper Stink Bugs Tobacco Budworm Whitefly	0.04-0.10	2.6-6.4	ULV Application: Apply the recommended rate of Bifenture EC in refined vegetable oil in a minimum of 1 quart of finished spray per acre with aircraft calibrated to give adequate coverage.  To Control Boll Weevil: Apply Bifenture EC at an interval of 3 to 4 days until pest numbers are reduced to acceptable levels.  To Control Mites and Aphids: Apply when pests first appear. Repeat as necessary to maintain control. Higher rates will be required once a damaging threshold is established.		
Pellow Striped Armyworm  Beet Armyworm  Carmine Spider Mite  Lygus spp.  Pink Bollworm  Twospotted Spider Mite	0.06-0.10	3.8-6.4	Do not apply more than 0.5 lb. a.i. per acre per season.  Do not make more than 10 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing season. Synthetic pyrethroid products include Ambush, Ammo, Asana, XL, Baythroid, Capture, Danitol, Karate, Mustang, and Scout X-TRA.  Do not graze livestock in treated areas or cut treated crops for feed.		

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (AT PLANT USE)

PEST	DOS	AGE		REM	IARKS AND I	RESTRICTION	IS
Corn Rootworm, Larvae Northern Southern Western	0.0046 lb. a.i. per 1,000 linear feet of row	0.30 fluid ounces per 1,000 linear feet of row	spray nozzle row. Use the a minimum Mix Bifentt tank approx amount of I	to 7 inch T-base behind the plane table below to of 3 gallons of the EC with wastimately one-habitenture EC the	and treatment or anter shoe, in fr to determine the finished spray ter or fertilizer If full with wat en add the rest	ver an open seed cont of the press of e Bifenture EC n per acre. in the following ter or liquid fertil of the water or fo	furrow. Position the wheel centered over the eeds per acre. Apply in marnner. Fill the spray lizer, add the proper ertilizer. Provide tain a uniform spray
Army Cutworm Cutworm Species Grubs Seed Corn Beetle Seed Corn Maggot True Armyworm or Armyworm Species Wireworm	0.0023 to 0.0046 lb. a.i. per 1,000 linear feet of row	0.15 to 0.30 fluid ounces per 1,000 linear feet of row	Application conjunction test should ensure mixt during mixt	with in furrow be performed w ture will stay in ing and applica	pop-up fertiliz vith appropriate solution. Con- tion.	e ratio of Bifentu	. A jar compatibility re EC and fertilizer to nould be maintained
			of treatment Do not app application	it. ly more than 0.	1 lb. active per	cut treated crops acre per season	for feed within 30 days
Row Spacings (inches)		_l	1 20 not upp	40	38	. 36	30
Bifenture EC (lb. a.i. per acr	e)	•		0.060	0.064	0.069	0.080
Bifenture EC (formulated pr		es per acre)	)	3.9	4.1	4.4	5.12

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED Pre-Plant Incorporated (PPI) and Pre-Emergence (PRE)

PEST	PEST DOSAGE		REMARKS AND RESTRICTIONS
Armyworm spp.	0.047 to	3 to 4 fl.	The 3-4 oz./A rate must be applied as PPI and can be tankmixed and
Black Cutworm	0.062 lb.	oz./A Pre-	applied with PPI herbicides. Incorporation of Bifenture EC should not be
Seedcorn Maggot	a.i./A Pre-	Plant	any deeper than the intended planting depth and no deeper than 3 inches.
Stalkborer	Plant	Incorporated	Incorporation depth should be close to the intended seed planting depth.
White Grub	Incorporated	(PPI)	
Wireworm	(PPI)		
Armyworm spp.	0.040 lb.	2.56	The 2.56 oz/A rate may be applied PRE and can be tankmixed and applied
Black Cutworm	a.i./A Pre-	fl. oz. /A	with PRE herbicides.
Stalkborer	emergence	Pre-	
	(PRE)	emergence	
	·	(PRE)	

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (FOLIAR USE)

	DOSA	GE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids Army Cutworm Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm Adults Cucumber Beetle Adult Cutworm Species European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Greenbug Japanese Beetle Adult Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southwestern Corn Borer Stinkbugs Tarnished Plant Bug True Armyworm or Armyworm Species Webworms Western Bean Cutworm Yellowstriped Armyworm	0:033-0.10	2.1-6.4	Apply in a minimum of 2-5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment. To improve control by aircraft, use 5 gallons of finished spray per acre particularly when initial populations are heavier than normal. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  To Control Ear-Attacking Pests: Apply Bifenture EC just before silking and repeat as necessary to maintain control.  Southwestern Corn Borer, European Corn Borer: Make application for com borer control with initial application at or shortly before egg hatch.  For Control of Other Insect Pests: Apply when pests first appear and repeat as necessary.  For Control of Mites: Apply for Banks Grass Mite control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.  For Twospotted Spider Mite and Carmine Mite Control: Apply when colonies first form prior to leaf damage or discoloration and before wide-spread mite dispersal throughout the canopy.  Higher rates will be necessary for heavier initial populations and corn under heat or drought stress. Field experience with dimethoate at 0.5 lb. a.i. per acre in tank mixture has demonstrated good control under these conditions.
Banks Grass Mite Carmine Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	For Mite Control in Texas, New Mexico, Oklahoma, and Arizona: Apply in a minimum of 5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment.  Do not apply more than 0.3 lb. active per acre per season including PRE & PPI, at plant plus foliar applications.  Do not graze livestock in treated areas or cut treated crops for feed within 30 days of the last application.  Use of ultra low volume (ULV) application on corn is prohibited.  Do not make aerial or ground applications to corn if heavy rainfall is imminent.  Use of Bifenture EC Agricultural Insecticide on corn is prohibited in all coastal counties.  Do not apply within 30 days of harvest.

## SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (AT PLANT USE)

PEST	DOS	AGE		REN	MARKS AND	RESTRICTIO	ONS
Corn Rootworm, Larvae	0.0046	0.30	Apply as a	to 7 inch T-ba	and treatment of	ver an open se	ed furrow. Position the
Northern	lb. a.i.	fluid	spray nozzle	e behind the pl	anter shoe, in f	ront of the pres	ss wheel centered over the
Southern	per	ounces	row. Use th	ne table below	to determine th	e Bifenture EC	needs per acre. Apply in
Western	1,000	per	a minimum	of 3 gallons of	f finished spray	per acre.	
	linear	1,000		,			
	feet of	linear	Mix Bifenta	ire EC with wa	ater or fertilizer	in the following	ng manner. Fill the spray
	row	feet of	tank approx	imately one-ha	alf full with wa	ter or liquid fer	tilizer, add the proper
		row	amount of I	Bifenture EC th	nen add the rest	of the water or	r fertilizer. Provide
			sufficient ap	gitation during	mixing and ap	plication to ma	intain a uniform spray
Army Cutworm	0.0023	0.15 to	Application	s of Bifenture	EC alone or in	recommended	tank mixtures, in
Cutworm Species	to	0.30	conjunction	with in furrow	v pop-up fertili:	zers may be use	ed. A jar compatibility
Grubs	0.0046	fluid	test should	be performed v	with appropriate	e ratio of Bifen	ture EC and fertilizer to
Seed Corn Beetle	lb. a.i.	ounces	ensure mixt	ure will stay ir	n solution. Con	stant agitation	should be maintained
Seed Corn Maggot	per	per	during mixi	ing and applica	ition.		
True Armyworm or	1,000	1,000					
Armyworm Species	linear	linear	Do not app	ly to soil where	e there is greate	er than 30% cov	ver of crop residue
Wireworm	feet of	feet of	remaining.				
	row	row					
			Do not app	ly within 30 da	ys of harvest.		
			Do not graz	ze livestock in	treated area or	cut treated crop	os for feed within 30 days
			of treatmen				•
•			D .				
			1	•	.1 Ib. active per	acre per seaso	n as an at plant
Pour Canainas (inch)		1	application		20	26	T 20
Row Spacings (inches)			-	40	38	3.6	30
Bifenture EC (lb. a.i. per a	<del></del>			0.060	0.064	0.069	0.080
Bifenture EC (formulated)	product, oun	ces per acre	e) ·	. 3.9	4.1	4.4	5.12

## SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (FOLIAR USE)

LB AVA 0.033-0.10	FL OZ/A 2.1-6.4	REMARKS AND RESTRICTIONS  Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  To Control Ear-Attacking Pests: Apply Bifenture EC when silking begins and repeat as necessary to maintain control.  Southwestern Corn Borer, European Corn Borer: Make 2 applications for corn borer control with the initial
	2.1-6.4	acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  To Control Ear-Attacking Pests: Apply Bifenture EC when silking begins and repeat as necessary to maintain control.  Southwestern Corn Borer, European Corn Borer:
		application at or shortly before egg hatch.  For Control of Other Insect Pests: Apply when pests first appear and repeat as necessary.  For Control of Mites: Apply for Banks Grass Mites control when colonies first form from prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.  For Twospotted Spider Mite and Carmine Mite
		Control: Apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy.
0.08-0.10	5.12-6.4	Higher rates will be necessary for heavier initial populations and corn under heat or drought stress.  Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated product) per acre per season.
		Do not graze livestock in treated areas of cut treated crop for feed within 1 day of the last application.  Use of ultra low volume (ULV) application on corn is prohibited.  Do not make aerial or ground applications to corn if heavy rainfall is imminent.  Use of Bifenture EC on corn is prohibited in all coastal counties.
	0.08-0.10	0.08-0.10 5.12-6.4

## **CUCURBITS**

· · · · · · · · · · · · · · · · · · ·		DOSA	GE	
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Chayote (fruit) Chinese waxgourd (Chinese preserving melon) Citron melon Cucumber Gherkin Gourd, edible (includes hyloan, cucuzza), (Luffa spp.) (includes hechima, Chinese okra), (Momordica spp.) (includes balsam apple, balsam pear, bitter melon, Chinese cucumber) Muskmelon (hybrids and/or cultivars	Aphids Armyworms Cabbage Looper Corn Earworm Cucumber Beetles Cutworm Grasshopper Leafhoppers Melonworm Pickleworm Plant Bug Rindworm Squash Bugs Squash Vine Borer Stink Bugs Tobacco Budworm	0.04-0.10	2.6-6.4	Apply in a minimum of 5 gallons of finished spray per acre by air or in a minimum of 20 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil many be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  Do not apply more than 0.3 lb. a.i. (19.2 ounces formulated product) per acre per season.  Do not make more than two applications after bloom.  Do not make applications less than 7 days apart.  Do not apply within 3 days of harvest.
of Cucumis melo) (includes true cantaloupe, Cantaloupe, Casaba, crenshaw melon, golden, pershaw melon, honeydew melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon) Pumpkin (Cucurbita spp.) Squash, summer (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini) Squash, winter (includes butternut squash, calabaza, hubbard squash (C. mixte, C. pepo), includes acorn squash, spaghetti squash) Watermelon (includes hybrids and or varieties of Citrullis	Carmine Mite Banks Grass Mite Lygus spp Twospotted Spider Mite Whitefly .	0.08-0.10	5.12-6.4	

## **EGGPLANT**

	DOS	SAGE	· ·
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Armyworms	0.033-0.10	2.1 <b>-</b> 6.4	Apply in a minimum of 2 gallons of finished spray per acre by air or in a
Colorado Potato Beetle			minimum of 10 gallons per acre with ground equipment. When applying by
Corn Earworm			air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in
Cucumber Beetle			the finished spray. Thorough coverage is essential to achieve control.
European Corn Borer			
Flea Beetle			Do not make applications less than 7 days apart.
Cabbage Looper			
Plant Bug			Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated product) per
Stink Bug			acre per season.
Thrips			
Tomato Pinworm			Do not apply within 7 days of harvest.
Tomato Hornworm			
Vegetable Leafminer			
Whitefly			
Banks Grass Mite	0.08-0.10	5.12-6.4	7
Carmine Mite		3.12 0.1	
Lygus spp.		1	
Pacific Spider Mite			
Twospotted Spider			
Mite			

## **GRAPES**

•	DOS	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Eastern Grape Leafhopper Variegated Leafhopper Western Grape Leafhopper	0.05 to 0.10	3.2 to 6.4	Apply in a minimum of 10 gallons of finished spray by air or in a minimum of 25 gallons of finished spray with ground equipment. When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray.
Black Vine Weevil Glasywinged Sharpshooter Twospotted Spider Mite	0.10	6.4	Thorough coverage is essential to achieve control.  When pest pressure is moderate to severe, use higher rate.  Do not apply more than 0.10 lb. a.i. per acre per season.  Do not apply within 30 days of harvest.

## HOPS

	DO	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.06-0.1	3.8-6.4	Do not exceed 0.1 lb. a.i. per acre per application.
Armyworms			Do not exceed 0.3 lb. a.i. per acre per season.
Cutworms			
Leafrollers		{	A spray interval of 21 days between applications must be maintained.
Loopers			
Root Weevils	0.05-0.1	3.2-6.4	A 14 day pre-harvest interval must be observed.

Twospotted spider mite	0.1	6.4	Application by ground: For best results, full coverage is essential. Early season recommend 100-150 gallons of spray per acre. Late season recommend 200-250 gallons of spray per acre.
			For Root Weevil control, make a directed spray to the base of the plant. Spray up the vine 3 feet and the soil surface 1.5 to 2 feet on either side of the plant.
			Application by air for late season control of twospotted spider mites: Apply no less than 6.4 oz (0.1 lb. a.i.) per application in a minimum of 10 gallons per acre.
	ŀ		Use of ultra low volume (ULV) application on hops is prohibited.

LETTUCE, HEAD

	DOS	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.10	2.1-6.4	Apply in water as necessary for insect control using a minimum of 15
Armyworms			gallons of finished spray per acre with ground equipment and 5 gallons per
Corn Earworm			acre by air. When applying by air, 1-2 quarts of emulsified oil may be
Cucumber Beetles	i i		substituted for 1-2 quarts of water in the finished spray. Thorough coverage
Cutworms			is essential to achieve control.
Diamondback Moth			
Flea Beetles			Do not make applications less than 7 days apart.
Imported			
Cabbageworm	[ [		A maximum of 0.5 lb. a.i. may be applied per acre per season.
Leafhoppers		•	
Loopers	!		Do not apply within 7 days of harvest.
Salt Marsh Caterpillar			
Stink Bug spp.			
Tobacco Budworm			
Whitefly			
Carmine Mite	0.08-0.10	5.12-6.4	
Lygus, spp.			
Twospotted Spider			
Mite			

# **PEARS**

-	DOS	AGE	
PEST	LB	FL	REMARKS AND RESTRICTIONS
	AI/A	OZ/A	^
Aphids	0.04 to	2.6 to	Application by ground: Apply as a dilute (minimum of 200 gallons of finished spray per acre)
Coddling	0.2	12.8	or concentrate (minimum of 50 gallons of finished spray per acre) spray in sufficient water to
Moth			provide thorough coverage.
Cutworms			
Green			Application by air: Apply the specified dosage in a minimum of 10 gallons per acre by air.
Fruitworm	,		
Leafhoppers			Do not apply more than 0.5 lb. active per acre per season with no more than 0.45 lb. active per
Leafminers	1		acre applied after petal fall.
Leafrollers			
Lygus spp.			Apply as necessary to maintain control using a minimum of 30 day spray interval.
Plant Bugs			
Plum Curculio			Do not graze livestock in treated orchards or cut treated cover crops for feed.
San Jose			Do not apply within 14 days of harvest.
Scale			
(Crawlers)			
Stink Bugs			

Tarnished		
Plant Bugs		
Twospotted	0.06 to	8.8 to
Spider	0.2	12.8
Mite		
Yellow Mite		
European Red	0.08 to	5.12 to
Mite	0.2	12.8

# PEPPERS, BELL AND NON-BELL

	DOSA	GE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Armyworms	0.033-0.1	2.1-6.4	Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply
Corn Earworm		-	with ground equipment using a minimum of 10 gallons of finished spray per acre or
Cucumber Beetles			a minimum of 2 gallons per acre by aircraft.
Cutworms			
European Corn			Do not make applications less than 7 days apart.
Borer			
Flea Beetles			Do not apply more than 0.20 lb. a.i. per acre per season.
Leafminers			
Loopers			Do not apply within 7 days of harvest.
Pepper Weevil			
Thrips			
Whitefly			
Broad Mite	0.8-0.10	5.12-6.4	<u>-</u>
Carmine Mite	0.8-0.10	3.12-0.4	
Lygus spp.			
Twospotted Spider			
. Mite			
. 141110			

# SPINACH

PESTS	DOSAGE	REMARKS AND RESTRICTIONS
Armyworms	2.1 to 6.4 ounces (0.033 to	For control of whiteflies apply foliar treatments of Bifenture EC by
Colorado Potato Beetle	0.10 lb. active) per acre	ground or air at rates of up to 0.4 pt. (0.1 lb. active) per acre at minimum
Corn Earworm		7-day intervals up to a maximum of 4 applications.
Cucumber Beetles		
Cutworms		For control of fire ants apply Bifenture EC to the soil (at planting) or as a
European Corn Borer		foliar treatment by ground or air at rates of up to 0.4 pt. (0.1 lb. active) per
Flea Beetles		acre at minimum 7-day intervals up to a maximum of 4 applications.
Leafminers		
Loopers		Apply the specified dosage in 5-50 gallons of finished spray per acre by
Pepper Weevil		air or 10-50 gallons of finished spray per acre by ground.
Tomato Pinworm		1 71 70 1
Tomato Hornworm		Do not make applications less than 7 days apart.
Thrips		
Whitefly		·
Broad Mite	5.12 to 6.4 ounces (0.08 to	Do not apply more than 0.4 lb. a.i. per acre per season.
Banks Grass Mite	0.10 lb. active) per acre	be not apply more dian of the distribution.
Carmine Mite		Do not apply within 40 days of harvest.
Fire Ants		
Lygus spp.	1	
Twospotted Spider Mite		
Pacific Spider Mite		
•		

# SUCCULENT PEAS AND BEANS

		DOSAGE		
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Pea (Pisum spp.)	Flea Beetle	0.025-0.10	1.6-6.4	Apply in a minimum of 2 gallons of finished spray per acre by
Dwarf pea	Grasshoppers			air or in a minimum of 10 gallons per acre with ground
Edible-pod pea	Aster			equipment. When applying by air, 1-2 quarts of emulsified oil
English pea	Leafhopper			may be substituted for 1-2 quarts of water in the finished spray.
Garden pea	Leafhoppers			Thorough coverage is essential to achieve control.
Green pea	Alfalfa	0.033-0.10	2.1-6.4	
Snow pea	Caterpillar			Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated
Sugar snap pea	Aphids			product) per acre per season.
Pigeon pea	Bean Leaf	1		
Bean (Phaseolus	Beetle			Do not apply within 3 days of harvest.
spp.):	Beet Armyworm			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Broadbean	Cloverworm			
(succulent)	Corn Earworm	l	1	
Lima bean	Corn Rootworm			
(green)	(Adult)	· .	1	
Runner bean	Cucumber			
Snap bean	Beetles			
Wax bean	Cutworms	1		
Bean (Vigna spp.):	European Corn	1		
Asparagus bean	Borer		ļ	
Blackeyed pea	Fall Armyworm			
Chinese longbean	Japanese Beetle		-	·
Cowpeas	(Adult)	(		
Moth bean	Loopers			
Southern pea	Pea Leaf Weevil			
Yardlong bean	Pea Weevil		}	
Jackbean	Plant Bug			·
Soybean	Sap Beetle			·
(immature seed) Sword bean	Southern	)		
Sword bean	Armyworm	ĺ		
	Stink Bugs	]		
	Tarnished Plant			
	Bug	{	•	
	Thrips			
	Webworms			
ţ	Western Bean			
)	Cutworm			
	Yellowstriped			
	Armyworm			
	Whitefly			
	Banks Grass	0.08-0.10	5.12-6.4	
	Mite			
	Carmine Mite			
	Lygus spp.			
	Twospotted			
L	Spider Mite	Ĺ	j	

## TOMATOES

	TOMATOES	
PEST	DOSAGE	REMARKS AND RESTRICTIONS
Aphids	2.1-5.2 fluid ounces (0.033-0.08	Apply in water as necessary for insect control
Armyworms – Including:	lb. active) per acre	using a minimum of 15 gallons of finished spray
Beat Armyworm, Fall		per acre with ground equipment.
Armyworm, Southern		
Yellowstriped Armyworm		Thorough coverage is essential to achieve
Bean Leaf Beetle		control.
Cabbageworm	**	
Carmine Mite		Do not make applications less than 10 days
Cloverworm		apart.
Corn Earworm		F
Corn Rootworm		A maximum of 4 applications may be applied
Cucumber Beetles		per season.
Cutworms		F
Diamondback Moth		Do not apply within 1 day of harvest.
European Corn Borer		- o mos apply manages and or state vest.
Flea Beetles		<u>.</u>
Flea Hopper		
Grasshopper	·	
Japanese Beetle (Adult)		·
Leafhoppers		
Loopers		
Lygûs spp.		
Melonworm		
Pea Weevil		
Pea Leaf Weevil		
Pickleworm		
Plant Bug	·	
Rindworm		
Salt Marsh Caterpillar		
Sap Beetle		
Seedpod Weevil		
Squash Bugs		
Stink Bug spp.		
Tobacco Budworm		
Tarnished Plant Bug		
Thrips		
Two Spotted Spider Mite		
Whitefly		<b>\</b>
TTHEOITY		<u> </u>

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NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

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Rev. 4/05

### RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

### BIFENTURETM EC AGRICULTURAL INSECTICIDE

BIFENTURE EC AGRICULTURAL INSECTICIDE IS NOT FOR SALE OR USE IN CALIFORNIA.

•			
Active Ingredient:	By Wt.		*****
Bifenthrin* (2 methyl[1,1'-biphenyl]-3-yl) methyl 3-(2-chloro-3,3	3,3-trifluoro-		•••••
1-propenyl)-2,2-dimethylcyclopropanecarboxylate	25.1%		•• •
Inert Ingredients**:		•••••	•
TOTAL	100.0%	• •	•
*Cis isomers 97% minimum, trans isomers 3% maximum.		9 9 0 0 9 9 9 0 0 0 9 9	••••
**Contain xylene range aromatic solvents		****	***
This product contains 2 pounds active ingredient per gallon.		• • • •	•
KEEP OUT OF RE	CACH OF CHILDREN	,	*****

WARNING
AVISO

This label must be in the possession of the user at the time of application.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

	FIRST AID
If swallowed	Call a poison control center or doctor immediately for treatment advice.
	Do not induce vomiting unless told to do so by the poison control center or doctor.
	Do not give any liquid to the person.
	Do not give anything by mouth to an unconscious person.
If in eyes	Hold eye open and rinse slowly and gently with water for 15-20 minutes.
	• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
	Call a poison control center or doctor for treatment advice.
If inhaled	Move person to fresh air.
	• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.
	Call a poison control center or doctor for further treatment advice.
If on skin or	Take off contaminated clothing.
clothing	Rinse skin immediately with plenty of water for 15-20 minutes.
	Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN

This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR EMERGENCY MEDICAL ASSISTANCE, CALL THE NATIONAL PESTICIDE INFORMATION CENTER 1-800-858-7378.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.



Manufactured for: United Phosphorus, Inc. 423 Riverview Plaza • Trenton, NJ 08611 1-800-247-1557 • www.upi-usa.com

EPA Reg. No. 70506-57 EPA Est. No. Net Contents:

# PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals Warning

WARNING. May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield or safety glasses). Harmful if absorbed through skin or inhaled. Avoid breathing spray mist. Avoid contact with skin. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

#### Personal Protective Equipment (PPE):

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

### Handlers who may be exposed to the dilute through application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber or Viton
- Shoes plus socks

## Handlers who may be exposed to the concentrate through mixing, loading, application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber, or Viton
- · Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

#### **Environmental Hazards**

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

#### Physical/Chemical Hazards

Do not use or store near heat or open flame.

#### **DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**Resistance**: Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control in your area.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves, such as barrier laminate or nitrile rubber or neoprene rubber or Viton.
- · Shoes plus socks.

#### STORAGE AND DISPOSAL

**Pesticide Storage**: Do not freeze. Do not store below 40°F. If crystals are observed, warm material to above 60°F by placing in warm location. Shake or roll container periodically to redissolve solids.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.

To Confine Spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Container Disposal: Metal or Plastic Container: Triple rinse (or equivalent), then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

Returnable, Refillable Containers: Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

#### **Chemigation Use Directions**

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

For LEPA irrigation a minimum of 0.75 inch of water per acre is recommended. Where non-emulsified oils are used as the diluent, 1 to 2 pints per acre is recommended.

Results from utilizing chemigation have been variable and depend upon the set up and calibration of equipment. Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. Contact your State Agricultural Extension Service specialists, equipment manufacturers or other experts for consultation on the suitability of the equipment set up to obtain effective control of the target insect pests.

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease application during a mechanical stoppage may result in undesirable residues to adjacent areas.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Bifenture EC Agricultural Insecticide should be applied continuously for the duration of the water application. Bifenture EC Agricultural Insecticide should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation, a minimum of 0.5 inch per acre of irrigation water is recommended. Agitation generally is not required when a suitable diluent is used. A diluent test should be conducted to ensure that phase separation will not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

#### **Rotational Crops**

Crops for which bifenthrin tolerances exist may be rotated at any time. All other crops may be rotated 30 days after the last application.

#### Tank-Mixture

Bifenture EC Agricultural Insecticide may be applied in tank mixtures with other products approved for use on registered crops.

Observe all restrictions and precautions which appear on the labels of these products. Test for compatibility of products before mixing.

#### **Application Instructions**

Rate of application is variable according to pest pressure, timing of sprays, and field scouting. Use lower rates under light to moderate infestations; higher rates under heavy insect pressure and for mite control. Arid climates generally require higher rates.

Cultivation within 10 feet of a water body is prohibited to allow for the growth of a vegetated filter strip.

In New York State this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

#### **Spray Drift Precautions**

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMANENT STREAMS; MARSHES OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.

Do not apply by ground equipment within 25 feet, or by air within 150 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds. Increase the buffer zone to 450 feet when ultra low volume (ULV) application is made in cotton. Use of ultra low volume (ULV) application on corn and hops is prohibited.

For aerial applications, the spray boom should be mounted on the aircraft so as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of wing span or rotor diameter.

Use the largest droplet size consistent with good pest control. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.

Spray should be released at the lowest height consistent with pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided.

Make aerial or ground applications when the wind velocity favors on target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid applications when wind gusts approach 15 mph.

Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

Do not cultivate within 10 feet of the aquatic areas so as to allow growth of a vegetative filter strip.

Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift to aquatic areas. Avoid spraying during conditions of low humidity and/or high temperature.

Do not make aerial or ground applications during temperature inversions. Do not make aerial or ground applications to corn if heavy rainfall is imminent. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

#### INDEX TO CROPS LISTED ON THIS LABEL

Artichokes

Brassicas

Caneberries

Canola, Crambe, Rapeseed

Citrus (Not for this use in Florida)

Citrus (For use in Florida only)

Cotton

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (At Plant Use)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (PRE & PPI)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (Foliar Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (At Plant Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (Foliar Use)

Cucurbits

Eggplant

Grapes

Hops

Lettuce, Head

Pears

Peppers, Bell and Non-Bell

Spinach

Succulent Peas and Beans

Tomatoes

## **ARTICHOKES**

	DOSAGE		
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Artichoke Plume  Moth  Cribrate Weevil	0.10	6.4	Apply when pest population reaches damaging threshold and repeat as necessary to maintain control, but not more often than 15 day intervals.
			Application by ground: Apply a full cover spray in a minimum of 75 gallons of finished spray per acre.
			Application by air: Apply specified dosage in a minimum of 10 gallors per acre.
			Do not exceed 0.5 lb. a.i. /A per season.
			A 5-day preharvest interval must be observed.

## BRASSICAS

		DOSAGE		
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Head and Stem	Aphids	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre
Brassica	Armyworms		,	by air or in a minimum of 10 gallons per acre with ground
Vegetables	Corn Earworm			equipment. When applying by air, 1-2 quarts of emulsified
including:	Crickets			oil may be substituted for 1-2 quarts of water in the finished
Broccoli	Cucumber	·	Ì	spray. Thorough coverage is essential to achieve control.
Brussels Sprouts	Beetles		{	
Cabbage	Cutworms		"	Do not apply more than 0.5 lb a.i. (1 quart) per acre per
Cauliflower	Diamondback			season.
Cavalo Broccolo	Moth			
Chinese Broccoli	Flea Beetles			Do not make more than 5 applications after bloom.
(gai lon, white	Ground Beetles			
flowering	Imported			Do not make applications less than 7 days apart.
broccoli)	Cabbageworm		}	
Chinese Cabbage	Leafhoppers		1	Do not apply within 7 days of harvest.
(napa)	Loopers			
Chinese Mustard	Saltmarsh		,	·
Cabbage (gai	Caterpillar		1.	
choy)	Stink Bugs		,	
Kohlrabi	Thrips			
	Tobacco			
	Budworm			
	Whitefly			
	Wireworm	II.		
	(Adults)			
	Banks Grass	0.08-0.10	5.12-6.4	
	Mite			
	Carmine Mite			
	Lygus spp.			
	Pacific Spider			
	Mite			
	Twospotted			
	Spider Mite			<u> </u>

## **CANEBERRIES**

		DOSAGE		
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Caneberries	Leafrollers	0.05-0.10	3.2-6.4	Apply by air or ground equipment using sufficient water to
including:	Orange Tortrix			obtain full coverage of foliage (minimum of 10 gallons per
Bingleberries	Root Weevils			acre by air and 50 gallons per acre by ground).
Blackberries				
Dewberries			[	One application may be made pre-bloom and a second
Loganberries				application may be made post bloom.
Lowberries			1	
Marionberries				Do not exceed 0.2 lb. a.i. /A per season.
Olallieberries				_
Raspberries	•			Do not apply within 3 days of harvest.
Youngberries				1
	Spider Mites	0.10	6.4	-[
		·		
	1	l	1	1

## CANOLA, CRAMBE, RAPESEED

	DO	SAGE			
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS		
Aphids	0.033-0.04	2.1-2.6	Apply in a minimum of 2 gallons of finished spray per acre by air or in a		
Armyworms			minimum of 10 gallons per acre with ground equipment. When applying		
Cutworms			by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of		
Diamondback			water in the finished spray. Thorough coverage is essential to achieve		
Moth			control.		
Flea Beetle	i				
Flea Hopper			Do not apply more than 0.08 lb. a.i. (5.12 ounces formulated product) per		
Grasshopper			acre per season. Do not make applications less than 14 days apart.		
Loopers					
Other		··	Do not apply within 35 days of harvest.		
Lepidopterous					
Larvae					
Plant Bug					
Seedpod Weevil			·		
Stink Bugs					
Thrips					
Whitefly					

## **CITRUS**

(Not for this use in Florida)

PEST	(Not for this use in Flo	REMARKS AND RESTRICTIONS
Asian Cockroach	16-32 ounces (0.25-0.50 lb. active)	Apply to individual citrus resets, when not in solid
Diaprepes Root	per acre	planted rows, using hand-gun or shielded sprayer.
Weevil (Diaprepes		
abbreviatus)		Peak emergence of Diaprepes root weevil
Fire Ants		generally occurs in the spring. Depending on
		weather conditions, a minor emergence of
		Diaprepes root weevil may also occur in the fall.
		If the citrus grove to be treated is in an area where weather conditions are conducive to primary emergence occurring in the spring, 32 fluid ounces formulated product should be used to obtain the longest residual management of Diaprepes root weevil.
		If the citrus grove to be treated is in an area where
		weather conditions will promote more than one
		peak of pest emergence, 16 fluid ounces formulated product can be applied early season
		and 16 fluid ounces formulated product can be
-		applied later in the season.
		If emergence extends beyond the residual protection of Bifenture EC, grower is advised to use additional management strategies (i.e. foliar adult control or soil larvae control such as nematodes). Contact your state agricultural Extension Specialist as to the recommendation suited for local conditions.
	C.	Do not apply through irrigation systems.
		Do not allow any application of Bifenture EC to contact fruit or foliage.
		Do not apply more than a total of 32 fluid ounces of formulated product (0.5 lb. a.i.) per acre per year.
		Apply the specified dosage in a minimum of 30 gallons of finished spray per acre.
		Ground application only. Do not apply by air.
		Do not apply within 1 day of harvest.

CITRUS (for use in Florida)

		(10) use in 1 fortual)
PESTS	DOSAGE	REMARKS AND RESTRICTIONS
Diaprepes Root Weevil	16 – 32 fl oz	Apply BIFENTURE EC by ground equipment to bare soil beneath
(Diaprepes abbreviatus)	(0.25 - 0.5  lb ai)	citrus trees. BIFENTURE EC must be uniformly applied from the
Southern Blue Green Citrus	per acre	trunk to the drip line of the tree; apply in a minimum of 40 gallons of
Root Weevil	Per delle	dilute spray per acre.
(Pachnaeus litus)		Greater spray volume should insure greater uniformity of coverage.
Blue Green Citrus Root		A pre- and post-application irrigation may aid in the uniformity of
Weevil	1	coverage as well.
(Pachnaeus opalus)		BIFENURE EC protects citrus tree roots from Diaprepes and other
Brown Leaf Notcher		citrus root weevil feeding by forming a barrier which provides
(Epicaerus mexicanus)		contact activity on newly hatched larvae (neonates). As citrus root
Little Leaf Notcher		weevil eggs hatch in new foliage, neonates fall to the soil
(Artipus floridanus)		surface beneath the tree and come in contact with BIFENTURE EC
Fireant	6.4 – 16 fl oz	as they attempt to burrow into the root zone. Disturbance of the soil
(Solenopsis spp.)	(0.1 - 0.25  lb ai)	beneath trees should be minimized.
Asian Cockroach	per acre	Timing of BIFENTURE EC applications is critical. Current
(Blattella asahinae)	per acre	information suggests that peak emergence of adult Diaprepes Weevil
(Dianena asaninae)		varies by citrus growing region and these emergence peaks can be
		dramatically affected by environmental factors, such as soil
		moisture.
		Typically, two peaks are observed for Diaprepes, first in spring then
		late summer or early fall. Southern Blue Green and Blue Green
		Citrus Weevils and Fuller Rose Beetle typically exhibit a single
		emergence peak in the spring. Brown and Little Leaf Notchers
		typically exhibit three emergence peaks, spring, summer, and fall.
•		Since emergence varies seasonally and by location, timing of
		BIFENTURE EC application can be accurately forecast by
•		observing adults. Adults are most active early morning and late
		afternoon; numbers can be estimated by trapping throughout spring
		and summer (emergence periods). Egg laying will occur for 8 to 10
		weeks following adult emergence from the soil; larval invasion of
		the soil will begin 2-3 weeks following adult emergence. It is
		critical to have the BIFENTURE EC soil barrier in place prior to
		drop of the neonates.
		DEDICTED FO
•		BIFENTURE EC is one of several effective tools in an integrated
		pest management program for Citrus Root Weevils. Application of
		BIFENTURE EC should be used in conjunction with good cultural
		practices, biological control of larvae and foliar control of adults.
		Consult local university extension personnel for current information
		to protect citrus trees from Citrus Root Weevils and other pests.

## COTTON

	DOS	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
European Corn Borer	0.02-0.10	1.3-6.4	Bifenture EC may be applied in water or refined
Soybean (Banded) Thrips			vegetable oil (soybean/cottonseed).
Tobacco Thrips			
•			Application in Water: Apply in a minimum of 5
			gallons per acre with ground equipment or 1 gallon
	,		per acre by aircraft. When applying by air, 1 quart of
			emulsified oil may be substituted for one quart of
			water in the finished spray.
Boll Weevil	0.04-0.10	2.6-6.4	ULV Application: Apply the recommended rate of
Bollworm	0.07-0.10	2.0-0.1	Bifenture EC in refined vegetable oil in a minimum of
Cabbage Looper			1 quart of finished spray per acre with aircraft
Cotton Aphid			calibrated to give adequate coverage.
Cotton Fleahopper		}	
Cotton Leafperforator			To Control Boll Weevil: Apply Bifenture EC at an
Cutworms		i	interval of 3 to 4 days until pest numbers are reduced
Fall Armyworm	·	1	to acceptable levels.
Plant Bugs			
Saltmarsh Caterpillar			To Control Mites and Aphids: Apply when pests
Southern Garden Leafhopper			first appear. Repeat as necessary to maintain control.
Stink Bugs			Higher rates will be required once a damaging
Tobacco Budworm			threshold is established.
Whitefly			
Yellow Striped Armyworm	201010		4
Beet Armyworm	0.06-0.10	3.8-6.4	Do not apply more than 0.5 lb. a.i. per acre per
Carmine Spider Mite			season.
Lygus spp.			D 4 1 10 1 4 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1
Pink Bollworm			Do not make more than 10 synthetic pyrethroid applications (of one product or combination of
Twospotted Spider Mite			
			products) to a cotton crop in one growing season.  Synthetic pyrethroid products include Ambush <sup>®</sup> ,
			Ammo <sup>®</sup> , Asana <sup>®</sup> XL, Baythroid <sup>®</sup> , Capture <sup>®</sup> ,
			Danitol <sup>®</sup> , Karate <sup>®</sup> , Mustang <sup>®</sup> , and Scout X-TRA <sup>®</sup> .
			James , Indiana , Indianai , und boott N-INA .
·			Do not graze livestock in treated areas or cut treated
			crops for feed.
		1	Do not apply within 14 days of harvest.

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (AT PLANT USE)

PEST	DOS	AGE		REM	IARKS AND	RESTRICTION	IS
Corn Rootworm, Larvae	0.0046	0.30	Apply as a	5 to 7 inch T-ba	and treatment o	ver an open seed	furrow. Position the
Northern	lb. a.i.	fluid	spray nozzle	e behind the pla	anter shoe, in fi	ont of the press	wheel centered over the
Southern	per	ounces	row. Use th	ne table below t	o determine the	e Bifenture EC n	eeds per acre. Apply in
Western	1,000	per	a minimum	of 3 gallons of	finished spray	per acre.	
	linear	1,000					
	feet of	linear					manner. Fill the spray
	row	feet of					izer, add the proper
		row	i		* .		ertilizer. Provide
		}	sufficient a	gitation during	mixing and app	olication to main	lain a uniform spray
			mixture.				
Army Cutworm	0.0023	0.15 to					
Cutworm Species	to	0.30	1			recommended ta	·
Grubs	0.0046	fluid ·					. A jar compatibility
Seed Corn Beetle	lb. a.i.	ounces	1	-			re EC and fertilizer to
Seed Corn Maggot	per	per	1	•		stant agitation sh	ould be maintained
True Armyworm or	1,000	1,000	during mixi	ing and applica	tion.	•	
Armyworm Species	linear	linear					_
Wireworm	feet of	feet of		ly to soil where	there is greate	r than 30% cover	of crop residue
	row	row	remaining.				
			Do not graz	ze livestock in t	reated area or o	cut treated crops	for feed within 30 days
			of treatmen			•	·
,			Do not onn	ly more than A	1 lb active ner	acre per season	es en et plant
			application	•	Tio. active per	acre per season	as arr at plant
			Do not app	ly within 30 da	ys of harvest.		
Row Spacings (inches)				40	38	36	30
Bifenture EC (lb. a.i. per ac	cre)			0.060	0.064	0.069	0.080
Bifenture EC (formulated p	roduct, ounc	es per acre)		3.9	4.1	4.4	5.12

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED Pre-Plant Incorporated (PPI) and Pre-Emergence (PRE)

PEST DOSAGE		AGE	REMARKS AND RESTRICTIONS		
Armyworm spp.	0.047 to	3 to 4 fl.	The 3-4 oz./A rate must be applied as PPI and can be tankmixed and		
Black Cutworm	0.062 lb.	oz./A Pre-	applied with PPI herbicides. Incorporation of Bifenture EC should not be		
Seedcorn Maggot	a.i./A Pre-	Plant	any deeper than the intended planting depth and no deeper than 3 inches.		
Stalkborer	Plant	Incorporated	Incorporation depth should be close to the intended seed planting depth.		
White Grub	Incorporated	(PPI)			
Wireworm	(PPI)				
Armyworm spp.	0.040 lb.	2.56	The 2.56 oz/A rate may be applied PRE and can be tankmixed and applied		
Black Cutworm	a.i./A Pre-	fl. oz. /A	with PRE herbicides.		
Stalkborer	emergence	Pre-			
	(PRE)	emergence			
		(PRE)			

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (FOLIAR USE)

	DOSAGE				
PEST	LB AI/A FL OZ/A		REMARKS AND RESTRICTIONS		
Aphids Army Cutworm Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm Adults Cucumber Beetle Adult Cutworm Species European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Greenbug Japanese Beetle Adult Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southwestern Corn Borer Stinkbugs Tarnished Plant Bug True Armyworm or Armyworm Species Webworms Western Bean Cutworm Yellowstriped Armyworm			Apply in a minimum of 2-5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment. To improve control by aircraft, use 5 gallons of finished spray per acre particularly when initial populations are heavier than normal. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  To Control Ear-Attacking Pests: Apply Bifenture EC just before silking and repeat as necessary to maintain control.  Southwestern Corn Borer, European Corn Borer: Make application for corn borer control with initial application at or shortly before egg hatch.  For Control of Other Insect Pests: Apply when pests first appear and repeat as necessary.  For Control of Mites: Apply for Banks Grass Mite control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.  For Twospotted Spider Mite and Carmine Mite Control: Apply when colonies first form prior to leaf damage or discoloration and before discoloration and before wide-spread mite dispersal throughout the canopy.  Higher rates will be necessary for heavier initial populations and corn under heat or drought stress. Field experience with dimethoate at 0.5 lb. a.i. per acre in tank mixture has demonstrated good control under these conditions.		
Banks Grass Mite Carmine Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	For Mite Control in Texas, New Mexico, Oklahoma, and Arizona: Apply in a minimum of 5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment.  Do not apply more than 0.3 lb. active per acre per season including PRE & PPI, at plant plus foliar applications.  Do not graze livestock in treated areas or cut treated crops for fee within 30 days of the last application.  Use of ultra low volume (ULV) application on corn is prohibited.  Do not make aerial or ground applications to corn if heavy rainfal is imminent.  Use of Bifenture EC Agricultural Insecticide on corn is prohibited in all coastal counties.		

## SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (AT PLANT USE)

PEST	DOSAGE			REM	MARKS AND	RESTRICTIO	NS
Corn Rootworm, Larvae	0.0046	0.30	Apply as a :	to 7 inch T-b	and treatment of	ver an open see	d furrow. Position the
Northern	lb. a.i.	fluid	spray nozzle	e behind the pl	anter shoe, in fi	ront of the press	wheel centered over the
Southern	per	ounces	row. Use th	ne table below	to determine th	e Bifenture EC	needs per acre. Apply in
Western	1,000	per	a minimum	of 3 gallons of	f finished spray	per acre.	
	linear	1,000		J		• ,	
	feet of	linear	Mix Bifent	re EC with wa	ater or fertilizer	in the following	g manner. Fill the spray
	row	feet of	1				ilizer, add the proper
		row		•		•	fertilizer. Provide
			sufficient a	gitation during	mixing and ap	olication to main	ntain a uniform spray
			mixture.		0 1	•	1
Army Cutworm	0.0023	0.15 to	Application	s of Bifenture	EC alone or in	recommended t	ank mixtures, in
Cutworm Species	to	0.30	conjunction	with in furrov	v pop-up fertiliz	zers may be use	d. A jar compatibility
Grubs	0.0046	fluid	test should	be performed v	with appropriate	e ratio of Bifent	ure EC and fertilizer to
Seed Corn Beetle	lb. a.i.	ounces	ensure mixture will stay in solution. Constant agitation should be maintained				
Seed Corn Maggot	per	per	during mixing and application.				
True Armyworm or	1,000	1,000					
Armyworm Species	linear	linear	Do not app	ly to soil where	e there is greate	r than 30% cove	er of crop residue
Wireworm	feet of	feet of	remaining.	•	ū		•
	row	row					
			Do not app	ly within 30 da	ys of harvest.		
			Do not graz		treated area or	cut treated crops	s for feed within 30 days
•			Do not com	1	1 11		
			1 7 7	-	.1 10. active per	acre per seasor	i as an at plant
Down Specings (inch ==)	_1		application	40	38	36	30
Row Spacings (inches)							
Bifenture EC (lb. a.i. per acre)			0.060	0.064	0.069	0.080	
Bifenture EC (formulated product, ounces per acre)				3.9	4.1	4.4	5.12

## SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (FOLIAR USE)

	DOSA	GE		
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS	
Aphids Army Cutworm Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm Adults Cucumber Beetle Adult Cutworm Species European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Greenbug Japanese Beetle Adult Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southwestern Corn Borer Stinkbugs Tarnished Plant Bug True Armyworm or Armyworm Species Webworms Western Bean Cutworm Yellowstriped Armyworm	LB AI/A 0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  To Control Ear-Attacking Pests: Apply Bifenture EC when silking begins and repeat as necessary to maintain control.  Southwestern Corn Borer, European Corn Borer: Make 2 applications for corn borer control with the initia application at or shortly before egg hatch.  For Control of Other Insect Pests: Apply when pests first appear and repeat as necessary.  For Control of Mites: Apply for Banks Grass Mites control when colonies first form from prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.  For Twospotted Spider Mite and Carmine Mite Control: Apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy.	
Banks Grass Mite Carmine Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	Higher rates will be necessary for heavier initial populations and corn under heat or drought stress.  Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated product) per acre per season.  Do not graze livestock in treated areas of cut treated crop for feed within 1 day of the last application.  Use of ultra low volume (ULV) application on corn is prohibited.  Do not make aerial or ground applications to corn if heavy rainfall is imminent.  Use of Bifenture EC on corn is prohibited in all coastal counties.  Do not apply within 1 day of harvest.	

## **CUCURBITS**

		DOSA	GE	
CROP	PEST	LB AI/A	FL	REMARKS AND RESTRICTIONS
CROI	1 1/1/1	LID PAIR	OZ/A	AND
Chayote (fruit)	Aphids	0.04-0.10	2.6-6.4	Apply in a minimum of 5 gallons of finished spray
Chinese waxgourd	Armyworms			per acre by air or in a minimum of 20 gallons per
(Chinese preserving	Cabbage Looper			acre with ground equipment. When applying by
melon)	Corn Earworm			air, 1-2 quarts of emulsified oil many be substituted
Citron melon	Cucumber Beetles			for 1-2 quarts of water in the finished spray.
Cucumber	Cutworm			Thorough coverage is essential to achieve control.
Gherkin	Grasshopper			
Gourd, edible	Leafhoppers			Do not apply more than 0.3 lb. a.i. (19.2 ounces
(includes hyloan,	Melonworm			formulated product) per acre per season.
cucuzza), (Luffa	Pickleworm			
spp.) (includes	Plant Bug			Do not make more than two applications after
hechima, Chinese	Rindworm		1	bloom.
okra), (Momordica	Squash Bugs	1		
spp.) (includes	Squash Vine Borer			Do not make applications less than 7 days apart.
balsam apple,	Stink Bugs			
balsam pear; bitter	Tobacco Budworm			Do not apply within 3 days of harvest.
melon, Chinese				
cucumber)	}			
Muskmelon (hybrids				
and/or cultivars	Ì			
of Cucumis melo)				
(includes	Carmine Mite	0.08-0.10	5.12-6.4	
true cantaloupe,	Banks Grass Mite			
Cantaloupe,	Lygus spp			
casaba, crenshaw	Twospotted Spider			
melon, golden,	Mite			
pershaw melon,	Whitefly			
honeydew melon,	. :-			·
honey balls, mango				
melon, Persian				
melon, pineapple				
melon, Santa			1	
Claus melon, and				
snake melon)				
Pumpkin (Cucurbita spp.)				
Squash, summer				}
(includes crookneck				
squash, scallop				
squash, straightneck				
squash, vegetable		ļ		
marrow, zucchini)			ì	
Squash, winter				
(includes butternut				
squash, calabaza,		-		
hubbard squash				
(C. mixte; C. pepo),				
includes acorn				
squash, spaghetti				
squash)			1	
Watermelon				
(includes hybrids and		}	1	
or varieties of Citrullis				
spp.)				

## **EGGPLANT**

DOS	SAGE	
LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by
		air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in
		the finished spray. Thorough coverage is essential to achieve control.
		Do not make applications less than 7 days apart.
		Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated product) per
	•	acre per season.
		Do not apply within 7 days of harvest.
0.08-0.10	5.12-6.4	
	LB AI/A 0.033-0.10	0.033-0.10 2.1-6.4

# GRAPES

	DOS	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Eastern Grape Leafhopper Variegated Leafhopper Western Grape Leafhopper	0.05 to 0.10	3.2 to 6.4	Apply in a minimum of 10 gallons of finished spray by air or in a minimum of 25 gallons of finished spray with ground equipment. When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray.
Black Vine Weevil Glasywinged Sharpshooter Twospotted Spider Mite	0.10	6.4	Thorough coverage is essential to achieve control.  When pest pressure is moderate to severe, use higher rate.  Do not apply more than 0.10 lb. a.i. per acre per season.  Do not apply within 30 days of harvest.

# HOPS

	DO	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.06-0.1	3.8-6.4	Do not exceed 0.1 lb. a.i. per acre per application.
Armyworms			Do not exceed 0.3 lb. a.i. per acre per season.
Cutworms			
Leafrollers			A spray interval of 21 days between applications must be maintained.
Loopers			
Root Weevils	0.05-0.1	3.2-6.4	A 14 day pre-harvest interval must be observed.

Twospotted spider mite	0.1	6.4	Application by ground: For best results, full coverage is essential. Early season recommend 100-150 gallons of spray per acre. Late season recommend 200-250 gallons of spray per acre.
			For Root Weevil control, make a directed spray to the base of the plant. Spray up the vine 3 feet and the soil surface 1.5 to 2 feet on either side of the plant.
			Application by air for late season control of twospotted spider mites: Apply no less than 6.4 oz (0.1 lb. a.i.) per application in a minimum of 10 gallons per acre.
	j. :		Use of ultra low volume (ULV) application on hops is prohibited.

LETTUCE, HEAD

	DOS	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.10	2.1-6.4	Apply in water as necessary for insect control using a minimum of 15
Armyworms			gallons of finished spray per acre with ground equipment and 5 gallons per
Corn Earworm			acre by air. When applying by air, 1-2 quarts of emulsified oil may be
Cucumber Beetles			substituted for 1-2 quarts of water in the finished spray. Thorough coverage
Cutworms	į l		is essential to achieve control.
Diamondback Moth			
Flea Beetles			Do not make applications less than 7 days apart.
Imported	1		
Cabbageworm			A maximum of 0.5 lb. a.i. may be applied per acre per season.
Leafhoppers		•	·
Loopers			Do not apply within 7 days of harvest.
Salt Marsh Caterpillar			
Stink Bug spp.			
Tobacco Budworm			
Whitefly			
Carmine Mite	0.08-0.10	5.12-6.4	
Lygus, spp.			
Twospotted Spider			
Mite			

## **PEARS**

	DOS	SAGE	
PEST	LB	FL	REMARKS AND RESTRICTIONS
	AI/A	OZ/A	
Aphids	0.04 to	2.6 to	Application by ground: Apply as a dilute (minimum of 200 gallons of finished spray per acre)
Coddling	0.2	12.8	or concentrate (minimum of 50 gallons of finished spray per acre) spray in sufficient water to
Moth			provide thorough coverage.
Cutworms			
Green			Application by air: Apply the specified dosage in a minimum of 10 gallons per acre by air.
Fruitworm			
Leafhoppers			Do not apply more than 0.5 lb. active per acre per season with no more than 0.45 lb. active per
Leafminers			acre applied after petal fall.
Leafrollers			
Lygus spp.			Apply as necessary to maintain control using a minimum of 30 day spray interval.
Plant Bugs			
Plum Curculio			Do not graze livestock in treated orchards or cut treated cover crops for feed.
San Jose			Do not apply within 14 days of harvest.
Scale			
(Crawlers)			
Stink Bugs			

Tarnished Plant Bugs		
Twospotted	0.06 to	8.8 to
Spider	0.2	12.8
Mite		
Yellow Mite		
European Red	0.08 to	5.12 to
Mite	0.2	12.8

## PEPPERS, BELL AND NON-BELL

	DOSAGE			
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS	
Armyworms	0.033-0.1	2.1-6.4	Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply	
Corn Earworm	-	Į.	with ground equipment using a minimum of 10 gallons of finished spray per acre or.	
Cucumber Beetles			a minimum of 2 gallons per acre by aircraft.	
Cutworms				
European Corn			Do not make applications less than 7 days apart.	
Borer				
Flea Beetles			Do not apply more than 0.20 lb. a.i. per acre per season.	
Leafminers				
Loopers			Do not apply within 7 days of harvest.	
Pepper Weevil				
Thrips				
Whitefly				
Broad Mite	0.8-0.10	5.12-6.4	<del>-</del>   ·	
Carmine Mite				
Lygus spp.				
Twospotted Spider				
. Mite				

# SPINACH

PESTS	DOSAGE	REMARKS AND RESTRICTIONS
Armyworms	2.1 to 6.4 ounces (0.033 to	For control of whiteflies apply foliar treatments of Bifenture EC by
Colorado Potato Beetle	0.10 lb. active) per acre	ground or air at rates of up to 0.4 pt. (0.1 lb. active) per acre at minimum
Corn Earworm		7-day intervals up to a maximum of 4 applications.
Cucumber Beetles		· ·
Cutworms		For control of fire ants apply Bifenture EC to the soil (at planting) or as a
European Corn Borer		foliar treatment by ground or air at rates of up to 0.4 pt. (0.1 lb. active) per
Flea Beetles		acre at minimum 7-day intervals up to a maximum of 4 applications.
Leafminers	·	
Loopers		Apply the specified dosage in 5-50 gallons of finished spray per acre by
Pepper Weevil		air or 10-50 gallons of finished spray per acre by ground.
Tomato Pinworm		
Tomato Hornworm		Do not make applications less than 7 days apart.
Thrips		
Whitefly		
Broad Mite	5.12 to 6.4 ounces (0.08 to	Do not apply more than 0.4 lb. a.i. per acre per season.
Banks Grass Mite	0.10 lb. active) per acre	bo not apply more than our to, and per detection.
Carmine Mite	/1	Do not apply within 40 days of harvest.
Fire Ants	·	bo not apply within to days of harvest.
Lygus spp.	•	
Twospotted Spider Mite		
Pacific Spider Mite		

# SUCCULENT PEAS AND BEANS

	DOSAGE					
CROP	PEST	LB AI/A FL OZ/A		REMARKS AND RESTRICTIONS		
Pea (Pisum spp.)	Flea Beetle	0.025-0.10	1.6-6.4	Apply in a minimum of 2 gallons of finished spray per acre by		
Dwarf pea	Grasshoppers			air or in a minimum of 10 gallons per acre with ground		
Edible-pod pea	Aster			equipment. When applying by air, 1-2 quarts of emulsified oil		
English pea	Leafhopper			may be substituted for 1-2 quarts of water in the finished spray.		
Garden pea	Leafhoppers		•	Thorough coverage is essential to achieve control.		
Green pea	Alfalfa	0.033-0.10	2.1-6.4	-		
Snow pea	Caterpillar	0.033-0.10	2.1-0.4	Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated		
Sugar snap pea	Aphids			product) per acre per season.		
Pigeon pea	Bean Leaf					
Bean (Phaseolus	Beetle			Do not apply within 3 days of harvest.		
spp.):	Beet Armyworm					
Broadbean	Cloverworm					
(succulent)	Corn Earworm	Ì				
Lima bean	Corn Rootworm			·		
(green)	(Adult)					
Runner bean	Cucumber					
Snap bean	Beetles					
Wax bean	Cutworms					
Bean (Vigna spp.):	European Corn	.*	1			
Asparagus bean	Borer					
Blackeyed pea	Fall Armyworm					
Chinese longbean	Japanese Beetle					
Cowpeas	(Adult)			{		
Moth bean	Loopers					
Southern pea	Pea Leaf Weevil	•				
Yardlong bean	Pea Weevil					
Jackbean	Plant Bug					
Soybean	Sap Beetle			·		
(immature seed)	Southern					
Sword bean	Armyworm		<u> </u>			
	Stink Bugs					
	Tarnished Plant					
	Bug	}				
	Thrips					
	Webworms					
	Western Bean					
	Cutworm		Í			
	Yellowstriped					
	Armyworm					
	Whitefly	1				
	Banks Grass	0.08-0.10	5.12-6.4	†		
	Mite	3.00 0.10	3.12-0.4			
	Carmine Mite	1	1			
	Lygus spp.					
	Twospotted					
	Spider Mite	.s*				

#### TOMATOES

	TOMATOES	
PEST	DOSAGE	REMARKS AND RESTRICTIONS
Aphids	2.1-5.2 fluid ounces (0.033-0.08	Apply in water as necessary for insect control
Armyworms – Including:	lb. active) per acre	using a minimum of 15 gallons of finished spray
Beat Armyworm, Fall	•	per acre with ground equipment.
Armyworm, Southern	·	
Yellowstriped Armyworm		Thorough coverage is essential to achieve
Bean Leaf Beetle		control.
Cabbageworm		
Carmine Mite		Do not make applications less than 10 days
Cloverworm		apart.
Corn Earworm		
Corn Rootworm		A maximum of 4 applications may be applied
Cucumber Beetles		per season.
Cutworms		
Diamondback Moth		Do not apply within 1 day of harvest.
European Corn Borer		
Flea Beetles		
Flea Hopper		
Grasshopper		
Japanese Beetle (Adult)		
Leafhoppers		·
Loopers		
Lygus spp.		
Melonworm		
Pea Weevil		
Pea Leaf Weevil		
Pickleworm		
Plant Bug	'	
Rindworm		
Salt Marsh Caterpillar		
Sap Beetle		
Seedpod Weevil		
Squash Bugs		
Stink Bug spp.		•
Tobacco Budworm		
Tarnished Plant Bug		
Thrips		
Two Spotted Spider Mite		
Whitefly		

#### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of United Phosphorus, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold United Phosphorus, Inc. and Seller harmless for any claims relating to such factors. United Phosphorus, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or United Phosphorus, Inc., and Buyer and User assume the risk of any such use. UNITED PHOSPHORUS, INC. MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

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Rev. 4/05

#### RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

# BIFENTURE™ EC AGRICULTURAL INSECTICIDE

EPA Reg. No. 70506-57

# SUPPLEMENTAL LABEL FOR USE ON CITRUS IN THE STATE OF FLORIDA

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# WARNING AVISO

This label must be in the possession of the user at the time of application.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read and follow all applicable precautionary statements, use directions, and restrictions on the federally registered BIFENTURE EC label.

#### **CITRUS**

	APPLICATION	
PESTS	RATE	DIRECTIONS FOR USE
Diaprepes Root Weevil	16 – 32 fl oz	Apply BIFENTURE EC by ground equipment to bare
(Diaprepes abbreviatus)	(0.25 – 0.5 l b	soil beneath citrus trees. BIFENTURE EC must be
Southern Blue Green	ai)	uniformly applied from the trunk to the drip line of
Citrus Root Weevil	per acre	the tree; apply in a minimum of 40 gallons of dilute
(Pachnaeus litus)	_	spray per acre.
Blue Green Citrus Root	_	Greater spray volume should insure greater
Weevil		uniformity of coverage. A pre- and post-application
(Pachnaeus opalus)		irrigation may aid in the uniformity of coverage as
Brown Leaf Notcher	,	well.
(Epicaerus mexicanus)		BIFENURE EC protects citrus tree roots from
Little Leaf Notcher		Diaprepes and other citrus root weevil feeding by
(Artipus floridanus)	·	forming a barrier which provides contact activity on
		newly hatched larvae (neonates). As citrus root
		weevil eggs hatch in new foliage, neonates fall
Fireant	6.4 – 16 fl oz	to the soil surface beneath the tree and come in
(Solenopsis spp.)	(0.1 – 0.25 l b	contact with BIFENTURE EC as they attempt to
Asian Cockroach	ai)	burrow into the root zone. Disturbance of the soil
(Blattella asahinae)	per acre	beneath trees should be minimized.
		Timing of BIFENTURE EC applications is critical.

Current Information suggests that peak emergence of adult Diaprepes Weevil varies by citrus growing region and these emergence peaks can be dramatically affected by environmental factors, such as soil moisture.

Typically, two peaks are observed for Diaprepes, first in spring then late summer or early fall. Southern Blue Green and Blue Green Citrus Weevils and Fuller Rose Beetle typically exhibit a single emergence peak in the spring. Brown and Little Leaf Notchers typically exhibit three emergence peaks, spring, summer, and fall. Since emergence varies seasonally and by location, timing of BIFENTURE EC application can be accurately forecast by observing adults. Adults are most active early morning and late afternoon; numbers can be estimated by trapping throughout spring and summer (emergence periods). Egg laying will occur for 8 to 10 weeks following adult emergence from the soil; larval invasion of the soil will begin 2-3 weeks following adult emergence. It is critical to have the BIFENTURE EC soil barrier in place prior to drop of the neonates.

BIFENTURE EC is one of several effective tools in an integrated pest management program for Citrus Root Weevils. Application of BIFENTURE EC should be used in conjunction with good cultural practices, biological control of larvae and foliar control of adults. Consult local university extension personnel for current information to protect citrus trees from Citrus Root Weevils and other pests.

#### Additional instructions:

Apply to individual citrus resets, when not in solid planted rows, using hand-gun or shielded sprayer.

Peak emergence of Diaprepes root weevil generally occurs in the spring. Depending on weather conditions, a minor emergence of Diaprepes root weevil may also occur in the fall. If the citrus grove to be treated is in an area where weather conditions are conductive to primary emergence occurring in the spring, 32 fl oz formulated product should be used to obtain the longest residual management of Diaprepes root weevil.

If the citrus grove to be treated is in an area where weather conditions will promote more than one peak of pest emergence, 16 fl oz formulated product can be applied early season and 16 fl oz formulated product can be applied later in the season.

Do not apply through irrigation systems.

Do not apply within one day of harvest.

Do not allow any application of BIFENTURE EC to contact fruit or foliage.

Do not apply more than a total of 32 fl oz of formulated product (0.5 lf ai) per acre per year. Apply the specified dosage in a minimum of 40 gallons of finished spray per acre.

Ground application only. Do not apply by air.



United Phosphorus, Inc. 423 Riverview Plaza Trenton, NJ 08611 1-800-247-1557 www.upi-usa.com

#### RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

# BIFENTURE™ EC AGRICULTURAL INSECTICIDE

EPA Reg. No. 70506-57

#### SUPPLEMENTAL LABEL FOR USE ON CITRUS IN THE STATE OF FLORIDA

Active Ingredient:	By Wt.	••••
Bifenthrin* (2 methyli1,1'-biphenyll-3-yl) methyl 3-(1 1-propenyl)-2,2-dimethylcyclopropanecarboxylate	25.1%	,
TOTAL		••••
*Cis isomers 97% minimum, trans isomers 3% maximum. **Contain xylene range aromatic solvents	• 1 • 0 •	•
This product contains 2 pounds active ingredient per gallo	on.	••••

# KEEP OUT OF REACH OF CHILDREN WARNING AVISO

This label must be in the possession of the user at the time of application.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read and follow all applicable precautionary statements, use directions, and restrictions on the federally registered BIFENTURE EC label.

#### **CITRUS**

PESTS	APPLICATION RATE	DIRECTIONS FOR USE
Diaprepes Root Weevil (Diaprepes abbreviatus) Southern Blue Green Citrus Root Weevil (Pachnaeus litus) Blue Green Citrus Root Weevil (Pachnaeus opalus) Brown Leaf Notcher (Epicaerus mexicanus) Little Leaf Notcher (Artipus floridanus)	16 – 32 fl oz (0.25 – 0.5 l b al) per acre	Apply BIFENTURE EC by ground equipment to bare soil beneath citrus trees. BIFENTURE EC must be uniformly applied from the trunk to the drip line of the tree; apply in a minimum of 40 gallons of dilute spray per acre.  Greater spray volume should insure greater uniformity of coverage. A pre- and post-application irrigation may aid in the uniformity of coverage as well.  BIFENURE EC protects citrus tree roots from Diaprepes and other citrus root weevil feeding by forming a barrier which provides contact activity on newly hatched larvae (neonates). As citrus root weevil eggs hatch in new foliage, neonates fall
Fireant (Solenopsis spp.) Asian Cockroach (Blattella asahinae)	6.4 – 16 fl oz (0.1 – 0.25 l b al) per acre	to the soil surface beneath the tree and come in contact with BIFENTURE EC as they attempt to burrow into the root zone. Disturbance of the soil beneath trees should be minimized.  Timing of BIFENTURE EC applications is critical.

Current information suggests that peak emergence of adult Diaprepes Weevil varies by citrus growing region and these emergence peaks can be dramatically affected by environmental factors, such as soil moisture.

Typically, two peaks are observed for Diaprepes, first in spring then late summer or early fall. Southern Blue Green and Blue Green Citrus Weevils and Fuller Rose Beetle typically exhibit a single emergence peak in the spring. Brown and Little Leaf Notchers typically exhibit three emergence peaks, spring, summer, and fall. Since emergence varies seasonally and by location, timing of BIFENTURE EC application can be accurately forecast by observing adults. Adults are most active early morning and late afternoon; numbers can be estimated by trapping throughout spring and summer (emergence periods). Egg laving will occur for 8 to 10 weeks following adult emergence from the soil: larval invasion of the soil will begin 2-3 weeks following adult emergence. It is critical to have the BIFENTURE EC soil barrier in place prior to drop of the neonates.

BIFENTURE EC is one of several effective tools in an integrated pest management program for Citrus Root Weevils. Application of BIFENTURE EC should be used in conjunction with good cultural practices, biological control of larvae and foliar control of adults. Consult local university extension personnel for current information to protect citrus trees from Citrus Root Weevils and other pests.

#### **Additional instructions:**

Apply to individual citrus resets, when not in solid planted rows, using hand-gun or shielded sprayer.

Peak emergence of Diaprepes root weevil generally occurs in the spring. Depending on weather conditions, a minor emergence of Diaprepes root weevil may also occur in the fall. If the citrus grove to be treated is in an area where weather conditions are conductive to primary emergence occurring in the spring, 32 fl oz formulated product should be used to obtain the longest residual management of Diaprepes root weevil.

If the citrus grove to be treated is in an area where weather conditions will promote more than one peak of pest emergence, 16 fl oz formulated product can be applied early season and 16 fl oz formulated product can be applied later in the season.

Do not apply through irrigation systems.

Do not apply within one day of harvest.

Do not allow any application of BIFENTURE EC to contact fruit or foliage.

Do not apply more than a total of 32 fl oz of formulated product (0.5 lf ai) per acre per year. Apply the specified dosage in a minimum of 40 gallons of finished spray per acre.

Ground application only. Do not apply by air.



United Phosphorus, Inc. 423 Riverview Plaza Trenton, NJ 08611 1-800-247-1557 www.upi-usa.com

#### RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

# BIFENTURE™ EC AGRICULTURAL INSECTICIDE

EPA Reg. No. 70506-57

SUPPLEMENTAL LABEL FOR USE ON CITRUS IF	N THE STATE OF FLORIDA	••••
Active Ingredient: Bifenthrin* (2 methyl[1,1'-biphenyl]-3-yl) methyl 3-(2-chl-1-propenyl)-2,2-dimethylcyclopropanecarboxylate Inert Ingredients**:  TOTAL		•
*Cis isomers 97% minimum, trans isomers 3% maximum.  **Contain xylene range aromatic solvents This product contains 2 pounds active ingredient per gallon.	**************************************	
KEEP OUT OF REACH OF WARNING	CHILDREN	•

This label must be in the possession of the user at the time of application.

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**AVISO** 

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read and follow all applicable precautionary statements, use directions, and restrictions on the federally registered BIFENTURE EC label.

#### CITRUS

	APPLICATION	
PESTS	RATE	DIRECTIONS FOR USE
Diaprepes Root Weevil	16 – 32 fl oz	Apply BIFENTURE EC by ground equipment to bare
(Diaprepes abbreviatus)	(0.25 – 0.5 l b	soil beneath citrus trees. BIFENTURE EC must be
Southern Blue Green	ai)	uniformly applied from the trunk to the drip line of
Citrus Root Weevil	per acre	the tree; apply in a minimum of 40 gallons of dilute
(Pachnaeus litus)		spray per acre.
Blue Green Citrus Root		Greater spray volume should insure greater
Weevil		uniformity of coverage. A pre- and post-application
(Pachnaeus opalus)		irrigation may aid in the uniformity of coverage as
Brown Leaf Notcher		well.
(Epicaerus mexicanus)		BIFENURE EC protects citrus tree roots from
Little Leaf Notcher		Diaprepes and other citrus root weevil feeding by
(Artipus floridanus)		forming a barrier which provides contact activity on
		newly hatched larvae (neonates). As citrus root
		weevil eggs hatch in new foliage, neonates fall
Fireant	6.4 – 16 fl oz	to the soil surface beneath the tree and come in
(Solenopsis spp.)	(0.1 – 0.25 l b	contact with BIFENTURE EC as they attempt to
Asian Cockroach	ai)	burrow into the root zone. Disturbance of the soil
(Blattella asahinae)	per acre	beneath trees should be minimized.
		Timing of BIFENTURE EC applications is critical.

Current Information suggests that peak emergence of adult Diaprepes Weevil varies by citrus growing region and these emergence peaks can be dramatically affected by environmental factors, such as soil moisture.

Typically, two peaks are observed for Diaprepes, first in spring then late summer or early fall. Southern Blue Green and Blue Green Citrus Weevils and Fuller Rose Beetle typically exhibit a single emergence peak in the spring. Brown and Little Leaf Notchers typically exhibit three emergence peaks, spring, summer, and fall. Since emergence varies seasonally and by location, timing of BIFENTURE EC application can be accurately forecast by observing adults. Adults are most active early morning and late afternoon; numbers can be estimated by trapping throughout spring and summer (emergence periods). Egg laving will occur for 8 to 10 weeks following adult emergence from the soil; larval invasion of the soil will begin 2-3 weeks following adult emergence. It is critical to have the BIFENTURE EC soil barrier in place prior to drop of the neonates.

BIFENTURE EC is one of several effective tools in an integrated pest management program for Citrus Root Weevils. Application of BIFENTURE EC should be used in conjunction with good cultural practices, biological control of larvae and foliar control of adults. Consult local university extension personnel for current information to protect citrus trees from Citrus Root Weevils and other pests.

#### Additional instructions:

Apply to individual citrus resets, when not in solid planted rows, using hand-gun or shielded sprayer.

Peak emergence of Diaprepes root weevil generally occurs in the spring. Depending on weather conditions, a minor emergence of Diaprepes root weevil may also occur in the fall. If the citrus grove to be treated is in an area where weather conditions are conductive to primary emergence occurring in the spring, 32 fl oz formulated product should be used to obtain the longest residual management of Diaprepes root weevil.

If the citrus grove to be treated is in an area where weather conditions will promote more than one peak of pest emergence, 16 fl oz formulated product can be applied early season and 16 fl oz formulated product can be applied later in the season.

Do not apply through irrigation systems.

Do not apply within one day of harvest.

Do not allow any application of BIFENTURE EC to contact fruit or foliage.

Do not apply more than a total of 32 fl oz of formulated product (0.5 lf ai) per acre per year. Apply the specified dosage in a minimum of 40 gallons of finished spray per acre.

Ground application only. Do not apply by air.



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# RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

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# BIFENTURE™ EC AGRICULTURAL INSECTICIDE

EPA Reg. No. 70506-57

#### SUPPLEMENTAL LABEL FOR USE ON CITRUS IN THE STATE OF FLORIDA

			•••
Active Ingredient:	By Wt.		•
Bifenthrin* (2 methyl[1,1'-biphenyl]-3-yl) methyl 3-			4
1-propenyl)-2,2-dimethylcyclopropanecarboxylate.		.5.1%. <b></b>	•
Inert Ingredients**:		4.9%	•••
TOTAL	1	00.0%	**
		••••	•
*Cis isomers 97% minimum, trans isomers 3% maximum.			, • • • *
**Contain xylene range aromatic solvents	<b>1</b>		••••
This product contains 2 pounds active ingredient per gal	ion.		• • • •

# WARNING AVISO

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#### **DIRECTIONS FOR USE**

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#### **CITRUS**

PESTS	APPLICATION RATE	DIRECTIONS FOR USE
Diaprepes Root Weevil (Diaprepes abbreviatus) Southern Blue Green Citrus Root Weevil (Pachnaeus litus) Blue Green Citrus Root Weevil (Pachnaeus opalus) Brown Leaf Notcher (Epicaerus mexicanus) Little Leaf Notcher (Artipus floridanus)	16 – 32 fl oz (0.25 – 0.5 l b ai) per acre	Apply BIFENTURE EC by ground equipment to bare soil beneath citrus trees. BIFENTURE EC must be uniformly applied from the trunk to the drip line of the tree; apply in a minimum of 40 gallons of dilute spray per acre.  Greater spray volume should insure greater uniformity of coverage. A pre- and post-application irrigation may aid in the uniformity of coverage as well.  BIFENURE EC protects citrus tree roots from Diaprepes and other citrus root weevil feeding by forming a barrier which provides contact activity on newly hatched larvae (neonates). As citrus root weevil eggs hatch in new foliage, neonates fall
Fireant (Solenopsis spp.) Asian Cockroach (Blattella asahinae)	6.4 – 16 fl oz (0.1 – 0.25 l b ai) per acre	to the soil surface beneath the tree and come in contact with BIFENTURE EC as they attempt to burrow into the root zone. Disturbance of the soil beneath trees should be minimized.  Timing of BIFENTURE EC applications is critical.

Current information suggests that peak emergence of adult Diaprepes Weevil varies by citrus growing region and these emergence peaks can be dramatically affected by environmental factors, such as soil moisture.

Typically, two peaks are observed for Diaprepes, first in spring then late summer or early fall. Southern Blue Green and Blue Green Citrus Weevils and Fuller Rose Beetle typically exhibit a single emergence peak in the spring. Brown and Little Leaf Notchers typically exhibit three emergence peaks, spring, summer, and fall. Since emergence varies seasonally and by location, timing of BIFENTURE EC application can be accurately forecast by observing adults. Adults are most active early morning and late afternoon; numbers can be estimated by trapping throughout spring and summer (emergence periods). Egg laying will occur for 8 to 10 weeks following adult emergence from the soil; larval invasion of the soil will begin 2-3 weeks following adult emergence. It is critical to have the BIFENTURE EC soil barrier in place prior to drop of the neonates.

BIFENTURE EC is one of several effective tools in an integrated pest management program for Citrus Root Weevils. Application of BIFENTURE EC should be used in conjunction with good cultural practices, biological control of larvae and foliar control of adults. Consult local university extension personnel for current information to protect citrus trees from Citrus Root Weevils and other pests.

#### Additional instructions:

Apply to individual citrus resets, when not in solid planted rows, using hand-gun or shielded sprayer

Peak emergence of Diaprepes root weevil generally occurs in the spring. Depending on weather conditions, a minor emergence of Diaprepes root weevil may also occur in the fall. If the citrus grove to be treated is in an area where weather conditions are conductive to primary emergence occurring in the spring, 32 fl oz formulated product should be used to obtain the longest residual management of Diaprepes root weevil.

If the citrus grove to be treated is in an area where weather conditions will promote more than one peak of pest emergence, 16 fl oz formulated product can be applied early season and 16 fl oz formulated product can be applied later in the season.

Do not apply through irrigation systems.

Do not apply within one day of harvest.

Do not allow any application of BIFENTURE EC to contact fruit or foliage.

Do not apply more than a total of 32 fl oz of formulated product (0.5 lf ai) per acre per year. Apply the specified dosage in a minimum of 40 gallons of finished spray per acre.

Cround application only. Do not apply by air.



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EPA Reg. No. 70506-57

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Active Ingredient: Bifenthrin* (2 methyl[1,1'-biphenyl]-3-yl) methyl 3-	By Wt.	•
1-propenyl)-2,2-dimethylcyclopropanecarboxylate.	25.1% 5	•
TOTAL	400.00/	•
*Cis isomers 97% minimum, trans isomers 3% maximum.	•••• • • • • • • • • • • • • • • • • •	
**Contain xylene range aromatic solvents This product contains 2 pounds active ingredient per gal		•

# KEEP OUT OF REACH OF CHILDREN WARNING AVISO

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#### CITRUS

PESTS	APPLICATION RATE	DIRECTIONS FOR USE
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Fireant (Solenopsis spp.) Asian Cockroach (Blattella asahinae)	6.4 – 16 fl oz (0.1 – 0.25 l b al) per acre	to the soil surface beneath the tree and come in contact with BIFENTURE EC as they attempt to burrow into the root zone. Disturbance of the soil beneath trees should be minimized.  Timing of BIFENTURE EC applications is critical.

Current information suggests that peak emergence of adult Diaprepes Weevil varies by citrus growing region and these emergence peaks can be dramatically affected by environmental factors, such as soil moisture.

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BIFENTURE EC is one of several effective tools in an integrated pest management program for Citrus Root Weevils. Application of BIFENTURE EC should be used in conjunction with good cultural practices, biological control of larvae and foliar control of adults. Consult local university extension personnel for current information to protect citrus trees from Citrus Root Weevils and other pests.

#### Additional instructions:

Apply to individual citrus resets, when not in solid planted rows, using hand-gun or shielded sprayer.

Peak emergence of Diaprepes root weevil generally occurs in the spring. Depending on weather conditions, a minor emergence of Diaprepes root weevil may also occur in the fall. If the citrus grove to be treated is in an area where weather conditions are conductive to primary emergence occurring in the spring, 32 fl oz formulated product should be used to obtain the longest residual management of Diaprepes root weevil.

If the citrus grove to be treated is in an area where weather conditions will promote more than one peak of pest emergence, 16 fl oz formulated product can be applied early season and 16 fl oz formulated product can be applied later in the season.

Do not apply through irrigation systems.

Do not apply within one day of harvest.

Do not allow any application of BIFENTURE EC to contact fruit or foliage.

Do not apply more than a total of 32 fl oz of formulated product (0.5 lf al) per acre per year.

Apply the specified dosage in a minimum of 40 gallons of finished spray per acre.

Ground application only. Do not apply by air.



United Phosphorus, Inc. 423 Riverview Plaza Trenton, NJ 08611 1-800-247-1557 www.upi-usa.com



# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

FEB 2 1 2006

Rebecca A. Clemmer United Phosphorus, Inc. 423 Riverview Plaza Trenton, NJ 08611

Subject:

Amendment - Copyright infringement

Bifenture EC Agricultural Insecticide

EPA Reg. No. 70506-57

Your Letter Dated August 31, 2005

#### Dear Ms. Clemmer:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable subject to the comments listed below. Two (2) copies of the finished labeling must be submitted prior to releasing the product for shipment. A stamped copy of the label is enclosed for your records.

- 1. On page 4 change "You should contact" to "Contact your State Agricultural .... etc" and change, "User should comply with", to "Observe all application directions .... etc".
- 2. On page 5 reinstate "Avoid applications when wind gusts approach 15 mph", and rinstate "Do not make aerial or ground application to corn if heavy rainfall is imminent". This limitation applies to all corn applications.
- 3. On page 6 restate the statement to read, "Cultivation within 10 feet of a water body is prohibited to allow for the growth a vegetated filter strip". This is a mandatory statement.
- 4. On page 12 and 16 add, "as a 5 to 7 inch T band" to the corn rootworm application instructions.

The interval between application are mandatory statements. Therefore change, 5. "Repeat applications" to "Do not make applications less than \_\_\_\_ days apart" throughout the crop application instructions as appropriate.

If you have any questions regarding this action, please contact BeWanda Alexander of my team at (703) 305-7460.

Sincerely,

wanda alufandersfor George T. LaRocca Product Manager (13)

Insecticide Branch

Registration Division (7505C)

#### RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

#### BIFENTURETM EC AGRICULTURAL INSECTICIDE

#### BIFENTURE EC AGRICULTURAL INSECTICIDE IS NOT FOR SALE OR USE IN CALIFORNIA.

Active Ingredient:	By Wt.
Bifenthrin* (2 methyl[1,1'-biphenyl]-3-yl) methyl 3-(2-chloro-3,	3,3-trifluoro-
1-propenyl)-2,2-dimethylcyclopropanecarboxylate	25.1%
Inert Ingredients**:	
TOTAL	100.0%

<sup>\*</sup>Cis isomers 97% minimum, trans isomers 3% maximum.

ACCEPTED
with COMMENTS
In EPA Letter Dated
FFR 2 1 2006

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No.

# WARNING AVISO

This label must be in the possession of the user at the time of application.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

	FIRST AID
If swallowed	<ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>Do not give any liquid to the person.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
If in eyes	<ul> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
If inhaled	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
If on skin or clothing	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>

## NOTE TO PHYSICIAN

This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR EMERGENCY MEDICAL ASSISTANCE, CALL THE NATIONAL PESTICIDE INFORMATION CENTER 1-800-858-7378.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.



Manufactured for: United Phosphorus, Inc. 423 Riverview Plaza • Trenton, NJ 08611 1-800-247-1557 • www.upi-usa.com

EPA Reg. No. 70506-57 EPA Est. No. Net Contents:

Page 1

Bifenture EC Agricultural Insecticide Rev. 3-05

<sup>\*\*</sup>Contain xylene range aromatic solvents

This product contains 2 pounds active ingredient per gallon.

# PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals Warning

WARNING. May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield or safety glasses). Harmful if absorbed through skin or inhaled. Avoid breathing spray mist. Avoid contact with skin. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

#### Personal Protective Equipment (PPE):

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

#### Handlers who may be exposed to the dilute through application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber or Viton
- Shoes plus socks

#### Handlers who may be exposed to the concentrate through mixing, loading, application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber, or Viton
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

#### Environmental Hazards

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

#### Physical/Chemical Hazards

Do not use or store near heat or open flame.

## DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

#### Resistance:

BIFENTURE is an insecticide. Any insect/mite population may contain individual insects that may develop resistance to a specific pesticide product used in consecutive generations to control these pests. Prediction of resistance development is uncertain. Appropriate Bifenture EC Agricultural Insecticide Rev. 3-05

resistance management strategies should be followed. Contact your local extension specialist or certified crop advisors for any additional pesticide resistance management and/or Integrated Pest Management recommendations for the specific site and pest problems in your area.

#### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- · Coveralls.
- Chemical-resistant gloves, such as barrier laminate or nitrile rubber or neoprene rubber or Viton.
- · Shoes plus socks.

#### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Store above 40°F.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Container Disposal: Metal or Plastic Container: Triple rinse (or equivalent), then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

Returnable, Refillable Containers: Refillable/re-usable containers should be returned to the point of purchase for cleaning and refilling because the container must be thoroughly cleaned before refilling.

#### **Chemigation Use Directions**

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

Use a minimum of 0.75 inch of water per acre for LEPA irrigation. Use 1 to 2 pints per Acre of non-emulsified oils when used as the diluent.

The set up and calibration of chemigation equipment are important to achieve control of target insect pests. . Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. You should contact your State Agricultural Extension Service specialists, equipment manufacturers or other experts for advice on the suitability of the equipment set up for optimum control of the target insect pests.

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease application during a mechanical stoppage may result in undesirable residues to adjacent areas.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Apply Bifenture EC Agricultural Insecticide continuously for the duration of the water application. Dilute Bifenture EC Agricultural Insecticide in sufficient volume to ensure accurate application over the area to be treated. Use a minimum of 0.5 inch per acre of irrigation water for application by chemigation. No agitation is required if a suitable diluent is used. Conduct a diluent test to check that phase separation will not occur during dilution and application. If uniform dilution is not achieved during the entire period of application, undesirable residues or less than desirable control may occur.

#### **Rotation Crop Restrictions**

Crops for which bifenthrin tolerances exist may be rotated at any time. All other crops may be rotated 30 days after the last application.

#### Tank-Mixes

Apply Bifenture EC Agricultural Insecticide with other products registered for the same crops. User should comply with all application directions, restrictions, and precautions on the EPA-registered labels for other tank mix partners.

#### **Spray Drift Precautions**

Maintain and calibrate all aerial and ground application equipment using appropriate carriers.

WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS (LAKES, RESERVOIRS, RIVERS, PERMANENT STREAMS, MARSHES, NATURAL PONDS, ESTUARIES OR COMMERCIAL FISH FARM PONDS OBSERVE THESE PRECAUTIONS:.

- Do not apply by ground equipment within 25 feet, or by air within 150 feet of aquatic areas. The buffer zone must be increased to 450 feet when ultra low volume (ULV) application is made in cotton. Do not use ultra low volume (ULV) applications to corn and hops.
- When applied by air, mount the spray boom on the aircraft to minimize drift caused by rotor vortices or wingtip. Use the
  minimum practical boom length which must not exceed 75% of wing span or rotor diameter.
- Select the appropriate nozzle sizes to form the largest spray droplets that provide sufficient coverage and control. Minimize the
  formation of very small droplets by pointing the nozzles away from the air stream, and by avoiding excessive spray boom
  pressure.

Do not apply the spray at heights greater than 10 feet above the crop canopy, but at the lowest height to ensure pest control and flight safety.

Apply by air or ground when wind speed is between 3 and 10 mph, and not greater than 15 mph.

- Do not apply when wind is blowing towards the aquatic area.
- Allow a 10 foot vegetative filter strip to grow between the aquatic areas and the treated crop.
- Do not spray during conditions of low humidity and high temperatures because of the increased likelihood of spray drift to aquatic areas.

Do not apply using aerial or ground applications during temperature inversions. An inversion can be identified by the presence of ground fog in humid areas or by lateral movement of smoke (under low wind conditions) from a ground source or a smoke generator. **Instructions for Application** 

The following Directions for Use tables provide, in some cases, rate ranges. Use the lower application rates when insect pressure is light to moderate. Use the higher application rates when insect populations are high, when treating mites and when climate is arid.

Allow a 10 foot vegetative filter strip to grow between the aquatic areas and the treated crop.

In New York State this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

#### INDEX TO CROPS LISTED ON THIS LABEL

Artichokes

Brassicas

Caneberries

Canola, Crambe, Rapeseed

Citrus (Not for this use in Florida)

Cotton

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (At Plant Use)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (PRE & PPI)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (Foliar Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (At Plant Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (Foliar Use)

Cucurbits

Eggplant

Grapes

Hops

Lettuce, Head

Pears

Peppers, Bell and Non-Bell

Spinach

Succulent Peas and Beans

Tomatoes

## **ARTICHOKES**

PESTS CONTROLLED	RATE BIFENTURE EC/ACRE	APPLICATION INSTRUCTIONS	PHI (days)
Artichoke Plume Moth Cribrate Weevil	0.10 lb. ai (6.4 fl. oz. product)	Begin applications when pest population reaches damaging levels repeat as necessary to maintain control.  Apply in water in a minimum of 75 gallons of spray/A by ground or in a minimum of 10 gallons/A by air.  Repeat application at 15 day intervals.  Do not apply more than 0.5 lb. a.i. /A (one quart product) per season.	5

## BRASSICAS

CROP	PESTS CONTROLLED	RATE BIFENTURE EC/ACRE	APPLICATION INSTRUCTIONS	PHI (days)
Head and Stem	Aphids	0.033-0.10 lb. ai	Apply in water in a minimum of 10 gallons spray/A by	7
Brassica	Armyworms	(2.1-6.4 fl. oz.	ground or in a minimum of 2 gallons/A by air. Substitute	
Vegetables	Corn Earworm	product)	1-2 quarts of emulsified oil for 1-2 quarts water if desired	
including:	Crickets		when applying by air.	
Broccoli	Cucumber Beetles		For best control thorough coverage is necessary.	
Brussels Sprouts	Cutworms			
Cabbage	Diamondback Moth		Do not exceed 0.5 lb a.i. (1 quart product) per acre per	
Cauliflower	Flea Beetles	ì	season.	
Cavalo Broccolo	Ground Beetles			
Chinese Broccoli	Imported		Do not make more than 5 applications after bloom.	
(gai lon, white	Cabbageworm			
flowering	Leafhoppers		Repeat applications at 7 day intervals.	
broccoli)	Loopers		-1	
Chinese Cabbage	Saltmarsh Caterpillar			
(napa)	Stink Bugs			
Chinese Mustard	Thrips			
Cabbage (gai	Tobacco			
choy)	Budworm			
Kohlrabi	Whitefly			
	Wireworm			
	(Adults)			
	Banks Grass	0.08-0.10 lb. ai		
	Mite	(5.12-6.4 fl. oz.		
	Carmine Mite	product)		
	Lygus spp.			
	Pacific Spider			
	Mite			
	Twospotted			]
	Spider Mite			

#### **CANEBERRIES**

CROP	PESTS CONTROLLED	RATE BIFENTURE EC/ACRE	APPLICATION INSTRUCTIONS	PHI (days)
Caneberries including: Bingleberries Blackberries Dewberries Loganberries Lowberries Marionberries Olallieberries Raspberries Youngberries	Leafrollers Orange Tortrix Root Weevils	0.05-0.10 lb. ai (3.2-6.4 fl. oz. product)	Apply in water in a minimum of 50 gallons/A by ground or in a minimum of 10 gallons/A by air.  For best control thorough coverage of foliage is necessary.  Make one prebloom application and if necessary one postbloom application.  Do not apply more than 0.2 lb. a.i. /A per season.	3
	Spider Mites	0.10 lb. ai (6.4 fl. oz. product)		

## CANOLA, CRAMBE, RAPESEED

PESTS	RATE BIFENTURE	APPLICATION INSTRUCTIONS	PHI
CONTROLLED	EC/ACRE		(days)
Aphids	0.033-0.04 lb. ai	Apply in water in a minimum of 10 gallons/A by ground or in a	35
Armyworms	(2.1-2.6 fl. oz. product)	minimum of 2 gallons/A by air. Substitute 1-2 quarts of emulsified	i
Cutworms		oil for 1-2 quarts water if desired when applying by air.	
Diamondback Moth		For best control thorough coverage is necessary.	
Flea Beetle			
Flea Hopper		Do not apply more than 0.08 lb. a.i. (5.12 fl. oz. product) per acre per	
Grasshopper		season.	
Loopers		Repeat applications at 14 day intervals.	
Other			
Lepidopterous			
Larvae			
Plant Bug			
Seedpod Weevil			
Stink Bugs			
Thrips			
Whitefly			

CITRUS
(Not for use in Florida)

PESTS	RATE BIFENTURE	APPLICATION INSTRUCTIONS	PHI
CONTROLLED	EC/ACRE		(days)
Asian Cockroach	0.25-0.50 lb. ai	Use a hand-gun or shielded sprayer to apply to	1
Diaprepes Root Weevil (Diaprepes abbreviatus)	(16-32 fl. oz. product)	individual citrus resets, when not in solid planted rows.	
Fire Ants		Diaprepes Root Weevil: If peak emergence is expected in the spring, use 32 fl. oz. formulated product to obtain the longest residual control.	
		If more than one peak of emergence is anticipated, apply 16 fl. oz. formulated product in the spring and 16 fl. oz. formulated product in the fall.	
		Do not apply using any type of chemigation	
		Direct the spray to the base of tree to prevent contact with fruit or foliage.	
		Do not apply more than a total of 0.5 lb ai (32 fl. oz. product) per acre per year.	
		Apply by ground only in a minimum of 30 gallons/acre of finished spray.	
		Do not apply by air.	

#### **COTTON**

PESTS CONTROLLED	RATE BIFENTURE EC/ACRE	APPLICATION INSTRUCTIONS	PHI (days)
European Corn Borer	0.02-0.10 lb. ai	Apply Bifenture EC in water or refined	14
Soybean (Banded) Thrips	(1.3-6.4 fl. oz.	soybean/cottonseed oil.	
Tobacco Thrips	product)	·	
		Apply in water in a minimum of 5 gallons/A by	
		ground or a minimum of 1 gallon/A by air.	
		Substitute 1 quart of emulsified oil for 1 quart	
		water if desired when applying by air.	
Boll Weevil	0.04-0.10 lb. ai	ULV Application: Apply in refined vegetable	
Bollworm	(2.6-6.4 fl. oz.	oil in a minimum of 1 quart/A with aircraft	
Cabbage Looper	product)	calibrated to give adequate coverage.	
Cotton Aphid	,		
Cotton Fleahopper		Boll Weevil: Apply Bifenture EC every 3 to 4	
Cotton Leafperforator		days until control is acceptable.	
Cutworms		Mites and Aphids: Apply when pests first	
Fall Armyworm		appear.	
Plant Bugs		Repeat as necessary to maintain control.	
Saltmarsh Caterpillar		Use the higher rates once a damaging threshold	
Southern Garden Leafhopper		is established.	
Stink Bugs			
Tobacco Budworm		Apply no more than 0.5 lb. a.i. per acre per	
Whitefly		season.	
Yellow Striped Armyworm			
Beet Armyworm	0.06-0.10 lb. ai	No more than 10 synthetic pyrethroid	
Carmine Spider Mite	(3.8-6.4 fl. oz.	applications (of one product or combination of	:
Lygus spp.	product)	products, including Ambush®, Ammo®, Asana®	
Pink Bollworm		XL, Baythroid <sup>®</sup> , Capture <sup>®</sup> , Danitol <sup>®</sup> , Karate <sup>®</sup> ,	Ì
Twospotted Spider Mite		Mustang®, and Scout X-TRA®) may be made o a	
		cotton crop in one growing season	
		Do not graze livestock in treated areas or cut	
		treated crops for feed.	

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (AT PLANT USE)

PESTS CONTROLLED	RATE BIFENTURE EC	APPLICATION INSTRUCTIONS	PHI (days)
Corn Rootworm, Larvae Northern Southern Western	0.0046 lb ai (0.30 fl. oz. product) per 1,000 linear feet of row	Apply at planting over the open seed furrow. The table below describes the amount of the Bifenture EC needed per acre. Apply in water in a minimum of 3 gallons/A.  When using Bifenture EC with fertilizers, check to be sure all components are compatible. For mixture with water or fertilizer, use the following procedure. Fill the spray tank approximately one-half full with water or liquid fertilizer; add the proper amount of Bifenture EC; then add the rest of the water or fertilizer. Sufficient agitation during mixing and application is required to ensure a uniform mixture.	30
Army Cutworm	0.0023 -		
Cutworm Species Grubs Seed Corn Beetle	0.0046 lb ai (0.15 - 0.30 fl. oz. product)	Only apply to soil when there is less than 30% cover of crop residue remaining.	
Seed Corn Maggot	per 1,000	Do not graze livestock in treated area or cut treated crops for feed within 30	
True Armyworm or	linear feet of	days of treatment.	
Armyworm Species Wireworm	row	Do not apply more than 0.1 lb. active per acre per season at planting.	

Row spacings	40 in.	38 in.	36 in.	30 in.
Bifenture EC (lb. a.i. per acre)	0.060	0.064	0.069	0.080
Bifenture EC (formulated product, ounces per acre)	3.9	4.1	4.4	5.12

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED Pre-Plant Incorporated (PPI) and Pre-Emergence (PRE)

PESTS CONTROLLED	RATE BIFENTURE EC	APPLICATION INSTRUCTIONS
Armyworm spp. Black Cutworm Seedcorn Maggot Stalkborer White Grub	0.047 to 0.062 lb. a.i./A (3-4 fl. oz/A product) Pre- Plant	Incorporate Bifenture EC close to the expected depth of the seed, but no deeper than 3 inches.  PPI: Use the 3-4 oz./A rate only. Apply alone or with PPI herbicides as a tank mix.
Wireworm	Incorporated (PPI)	PRE: Use the 2.56 oz/A rate when tankmixing and applying with PRE herbicides.
Armyworm spp. Black Cutworm Stalkborer	0.040 lb. a.i./A (2.56 fl. oz./A product) Pre- emergence (PRE)	

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (FOLIAR USE)

PESTS CONTROLLED	RATE BIFENTURE EC/ACRE	APPLICATION INSTRUCTIONS	PHI (days)
Aphids Army Cutworm Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm Adults Cucumber Beetle Adult Cutworm Species European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Greenbug Japanese Beetle Adult Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southwestern Corn Borer Stinkbugs Tarnished Plant Bug True Armyworm or Armyworm Species Webworms Western Bean Cutworm Yellowstriped Armyworm	0.033-0.10 lb ai (2.1-6.4 fl. oz. product)	Apply in water in a minimum of 10 gallons/A by ground or in a minimum of 2-5 gallons/A by air. For heavy infestations, use 5 gallons of finished spray per acre by aircraft. Substitute 1-2 quarts of emulsified oil for 1-2 quarts water if desired. For best control thorough coverage is necessary.  Ear-Attacking Pests: Apply Bifenture EC just before silking.  Southwestern Corn Borer, European Corn Borer: Apply at or shortly before egg hatch.  Other Insect Pests: Apply when insects first appear. Repeat as needed.  Banks Grass Mites: Apply f when colonies first form before leaf damage or discoloration and prior to movement above the bottom third of the plant.  Twospotted Spider Mite and Carmine Mite: Apply when colonies first form before leaf damage or discoloration and before wide-spread mite movement throughout the canopy. Use the higher rates if heavier insect pressure is noted and corn is under heat or drought stress. Tank mixtures with dimethoate at 0.5 lb. a.i. per acre are effective under these conditions.  Mite Control in Texas, New Mexico, Oklahoma, and Arizona: Apply in water in a minimum of 10 gallons/A ground or in a minimum of 5 gallons/A by air.	30
Banks Grass Mite Carmine Mite Twospotted Spider Mite	0.08-0.10 lb. ai (5.12-6.4 fl. oz. product)	Repeat applications as necessary to maintain control, but do not apply more than 0.3 lb. active per acre per season including PRE & PPI, at plant plus foliar applications.  Do not graze livestock in treated areas or cut treated crops for feed within 30 days of the last application.	
		Do not apply by ultra low volume (ULV) application on corn  If heavy rainfall is imminent, do not make aerial or ground applications to corn.	
		Use of Bifenture EC Agricultural Insecticide on corn is prohibited in all coastal counties.	ii

#### SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (AT PLANT USE)

PESTS CONTROLLED	RATE BIFENTURE EC	APPLICATION INSTRUCTIONS	PHI (days)
Corn Rootworm, Larvae Northern Southern Western	0.0046 lb. ai (0.30 fl.oz. product) per 1,000 linear feet of row	Apply at planting over the open seed furrow. The table below describes the amount of Bifenture EC needed per acre. Apply in a minimum of 3 gallons of finished spray per acre.  When using Bifenthrin EC with fertilizers, check to be sure all components are compatible. For mixture with water or fertilizer, use the following procedure. Fill the spray tank approximately one-half full with water or liquid fertilizer; add the proper amount of Bifenture EC; then add the rest of the water or fertilizer. Sufficient agitation during mixing and application is required to ensure a uniform mixture.	30
Army Cutworm Cutworm Species Grubs Seed Corn Beetle	0.0023 - 0.0046 lb. ai (0.15 - 0.30 fl.oz. product)	Only apply to soil where there is less than 30% cover of crop residue remaining.	
Seed Corn Maggot True Armyworm or Armyworm Species Wireworm	per 1,000 linear feet of row	Do not graze livestock in treated area or cut treated crops for feed within 30 days of treatment.  Do not apply more than 0.1 lb. active per acre per season at planting.	

Row Spacings	40 in.	38 in.	36 in.	30 in.
Bifenture EC (lb. a.i. per acre)	0.060	0.064	0.069	0.080
Bifenture EC (formulated product, ounces per acre)	3.9	4.1	4.4	5.12

#### SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (FOLIAR USE)

RATE BIFENTURE EC/ACRE	APPLICATION INSTRUCTIONS	PHI (days)
0.033-0.10 lb. ai (2.1-6.4 fl. oz. product)	Apply in water in a minimum of 10 gallons/A by ground or in a minimum of 2-5 gallons/A by air. For heavy infestations by aircraft, use 5 gallons of finished spray per acre. Substitute 1-2 quarts of emulsified oil for 1-2 quarts water if desired.  For best control, thorough coverage is necessary.  Ear-Attacking Pests: Apply Bifenture EC just before silking.  Southwestern Corn Borer, European Corn Borer: Apply twice, with the first application at or shortly before egg hatch.  Other Insect Pests: Apply when insects first appear. Repeat as needed.  Banks Grass Mites: Apply when colonies first form before leaf damage or discoloration and prior to movement above the bottom third of the plant.  Twospotted Spider Mite and Carmine Mite: Apply when colonies first form before leaf damage or discoloration and prior to widespread mite movement throughout the canopy.	1
0.08-0.10 lb. ai (5.12-6.4 fl. oz. product)	Use the higher rates if heavier insect pressure is noted and corn is under heat or drought stress.  Repeat applications as necessary, but do not apply more than 0.2 lb. a.i. (12.8 fl. oz. product) per acre per season.  Do not graze livestock in treated areas or cut treated crops for feed within 1 day of the last application.  Do not apply by ultra low volume (ULV) on corn.  If heavy rainfall is imminent, do not make aerial or ground applications to corn.  Use of Bifenture EC on corn is prohibited in all coastal	
	0.08-0.10 lb. ai (2.1-6.4 fl. oz. product)	BIFENTURE EC/ACRE  0.033-0.10 lb. ai (2.1-6.4 fl. oz. product)  Apply in water in a minimum of 10 gallons/A by ground or in a minimum of 2-5 gallons of finished spray per acre. Substitute 1-2 quarts of emulsified oil for 1-2 quarts water if desired. For best control, thorough coverage is necessary.  Ear-Attacking Pests: Apply Bifenture EC just before silking.  Southwestern Corn Borer, European Corn Borer: Apply twice, with the first application at or shortly before egg hatch.  Other Insect Pests: Apply when insects first appear. Repeat as needed.  Banks Grass Mites: Apply when colonies first form before leaf damage or discoloration and prior to movement above the bottom third of the plant.  Twospotted Spider Mite and Carmine Mite: Apply when colonies first form before leaf damage or discoloration and prior to widespread mite movement throughout the canopy.  0.08-0.10 lb. ai (5.12-6.4 fl. oz. product)  Use the higher rates if heavier insect pressure is noted and corn is under heat or drought stress.  Do not graze livestock in treated areas or cut treated crops for feed within 1 day of the last application.  Do not apply by ultra low volume (ULV) on corn.  If heavy rainfall is imminent, do not make aerial or ground applications to corn.

## **CUCURBITS**

CROP	PESTS CONTROLLED	RATE BIFENTUR	APPLICATION INSTRUCTIONS	PHI (days)
	<u> </u>	E EC/ACRE		
Chayote (fruit)	Aphids	0.04-0.10 lb.	Apply in water in a minimum of 20	3
Chinese waxgourd	Armyworms	ai	gallons/Aground or in a minimum of 5	
(Chinese preserving	Cabbage Looper	(2.6-6.4 fl. oz.	gallons/A by air. Substitute 1-2 quarts of	
melon)	Corn Earworm	product)	emulsified oil for 1-2 quarts water if desired.	
Citron melon	Cucumber Beetles	ļ	For best control thorough coverage is	
Cucumber	Cutworm		necessary.	
Gherkin	Grasshopper			
Gourd, edible	Leafhoppers		Do not apply more than 0.3 lb. a.i. (19.2 fl. oz.	
(includes hyloan,	Melonworm		product) per acre per season.	
cucuzza), (Luffa	Pickleworm			
spp.) (includes	Plant Bug		Do not apply more than twice after bloom.	
hechima, Chinese	Rindworm		5	
okra), (Momordica	Squash Bugs		Repeat applications at 7 day intervals.	
spp.) (includes	Squash Vine Borer			
balsam apple,	Stink Bugs Tobacco Budworm			
balsam pear, bitter melon, Chinese	1 obacco Budworm			
,				
cucumber)				
Muskmelon (hybrids and/or cultivars				
of Cucumis melo)				
,	Carmine Mite	0.08-0.10 lb.	-	
(includes	Banks Grass Mite	ai		
true cantaloupe, Cantaloupe,	Lygus spp	(5.12-6.4 fl.		
casaba, crenshaw	Twospotted Spider	oz. product)		
melon, golden,	Mite	oz. product)		Ì
pershaw melon,	Whitefly			
honeydew melon,	Willierry			
honey balls, mango	] .			
melon, Persian				
melon, pineapple				
melon, Santa				
Claus melon, and		i		
snake melon)				
Pumpkin (Cucurbita spp.)				
Squash, summer			·	
(includes crookneck				Ì
squash, scallop				
squash, straightneck				
squash, vegetable				
marrow, zucchini)				
Squash, winter				
(includes butternut				
squash, calabaza,	1			
hubbard squash	1			
(C. mixte; C. pepo),				
includes acom				
squash, spaghetti				
squash)				
Watermelon				
(includes hybrids and				
or varieties of Citrullis				
spp.)				

## **EGGPLANT**

PESTS CONTROLLED	RATE BIFENTURE EC/ACRE	APPLICATION INSTRUCTIONS	PHI (days)
Armyworms Colorado Potato Beetle Corn Earworm Cucumber Beetle European Corn Borer Flea Beetle Cabbage Looper Plant Bug Stink Bug Thrips Tomato Pinworm Tomato Hornworm Vegetable Leafminer Whitefly	0.033-0.10 lb. ai (2.1-6.4 fl. oz. product)	Apply in water in a minimum of 10 gallons/A by ground or in a minimum of 2 gallons/A by air. Substitute 1-2 quarts of emulsified oil for 1-2 quarts water if desired.  For best control thorough coverage is necessary.  Repeat application at 7 day intervals.  Do not apply more than 0.2 lb. a.i. (12.8 fl. oz. product) per acre per season.	7
Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted Spider Mite	0.08-0.10 lb. ai (5.12-6.4 fl. oz. product)		

GRAPES

PESTS CONTROLLED	RATE BIFENTURE ECACRE	APPLICATION INSTRUCTIONS	PHI (days)
Eastern Grape Leafhopper Variegated Leafhopper Western Grape Leafhopper	0.05-0.10 lb. ai (3.2 to 6.4 fl. oz. product)	Apply in a minimum of 25 gallons/A by ground or in a minimum of 10 gallons/A by air.	30
Black Vine Weevil Glasywinged Sharpshooter Twospotted Spider Mite	0.10 lb. ai (6.4 fl. oz. product)	Substitute 1-2 quarts of emulsified oil for 1-2 quarts water if desired.  For best control thorough coverage is necessary.  Use the higher rate when insect pressure is moderate to severe.  Do not apply more than 0.10 lb. a.i. per acre per season.	

HOPS

PESTS CONTROLLED	RATE BIFENTURE EC/ACRE	APPLICATION INSTRUCTIONS	PHI (days)
Aphids Armyworms Cutworms Leafrollers Loopers	0.06-0.1 lb. ai (3.8-6.4 fl. oz. product)	Do not apply more than 0.1 lb. a.i. per acre per application.  Do not apply more than 0.3 lb. a.i. per acre per season.  Repeat application at 21 day intervals.  By ground: Full coverage is necessary for best results. For early season,	14
Root Weevils	0.05-0.1 lb. ai (3.2-6.4 fl. oz. product)	use 100-150 gallons of spray per acre. For late season, use 200-250 gallons of spray per acre.	

Twospotted spider	0.1 lb. ai	Root Weevil, direct the spray to the base of the plant. Spray 3 feet up the
mite	(6.4 fl. oz.	vine and the soil surface 1.5 to 2 feet around the plant.
	product)	Twospotted spider mites, for late season control: Apply at least 6.4 fl.
		oz. (0.1 lb. a.i.) per application in a minimum of 10 gallons per acre by
		air.
	1	Do not apply by ultra low volume (ULV) application to hops.

LETTUCE, HEAD

PESTS	RATE	APPLICATION INSTRUCTIONS	PHI
		AFFLICATION INSTRUCTIONS	
CONTROLLED	BIFENTURE		(days)
	EC/ACRE		
Aphids	0.033-0.10 lb. ai	Apply in water in a minimum of 15 gallons/A by ground equipment or in	7
Armyworms	(2.1-6.4 fl. oz.	5 gallons/A by air. For air application, substitute 1-2 quarts of emulsified	
Corn Earworm	product)	oil for 1-2 quarts water if desired.	
Cucumber Beetles		For best control thorough coverage is necessary.	
Cutworms			
Diamondback Moth		Repeat application at 7 day intervals.	
Flea Beetles			
Imported		Do not apply more than 0.5 lb. a.i. per acre per season.	
Cabbageworm			
Leafhoppers			
Loopers			
Salt Marsh Caterpillar			
Stink Bug spp.			
Tobacco Budworm			
Whitefly	1		
Carmine Mite	0.08-0.10 lb. ai		
Lygus, spp.	(5.12-6.4 fl. oz.		
Twospotted Spider	product)		
Mite			

## **PEARS**

PESTS CONTROLLED	RATE BIFENTURE EC/ACRE	APPLICATION INSTRUCTIONS	PHI (days)
Aphids Coddling Moth Cutworms Green Fruitworm Leafhoppers Leafminers Leafrollers Lygus spp. Plant Bugs Plum Curculio San Jose Scale (Crawlers) Stink Bugs Tarnished	0.04-0.2 lb. ai (2.6 to 12.8 fl. oz. product)	By ground: Apply as a dilute (minimum of 200 gallons of finished spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre) spray. For best control thorough coverage is necessary.  By air: Apply in a minimum of 10 gallons per acre.  Do not apply more than 0.5 lb. active per acre per season with no more than 0.45 lb. active per acre applied after petal fall.  Apply as necessary to maintain control and repeat applications at 30 day intervals  Do not graze livestock in treated orchards or cut treated cover crops for feed.	14

Plant Bugs	
Twospotted Spider	0.06-0.2 lb. ai
Mite	(8.8 to 12.8 fl.
Yellow Mite	oz. product)
European Red Mite	0.08-0.2 lb. ai
1	(5.12 to 12.8 fl.
	oz. product)

# PEPPERS, BELL AND NON-BELL

PESTS CONTROLLED	RATE BIFENTURE EC/ACRE	APPLICATION INSTRUCTIONS	PHI (đays)
Armyworms Corn Earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Leafminers Loopers Pepper Weevil Thrips Whitefly	0.033-0.1 lb. ai (2.1-6.4 fl. oz. product)	Apply in water in a minimum of 10 gallons/A by ground or a minimum of 2 gallons/A by air.  Repeat application at 7 day intervals.  Apply as needed, but do not apply more than 0.20 lb. a.i. per acre per season.	7
Broad Mite Carmine Mite Lygus spp. Twospotted Spider Mite	0.08-0.1 lb. ai (5.12-6.4 fl. oz. product)		

# SPINACH

PESTSS	RATE	APPLICATION INSTRUCTIONS	PHI
CONTROLLED	BIFENTURE		(days)
	EC/ACRE		
Armyworms	0.033 to 0.10 lb. ai	Whiteflies: make up to 4 foliar treatments of Bifenture EC by	40
Colorado Potato Beetle		ground or air at rates of up to 0.4 pt. (0.1 lb. active) per acre	
Corn Earworm	(2.1-6.4 fl. oz.	Repeat applications at 7 day intervals.	
Cucumber Beetles	product)	Fire ants: make up to 4 applications of Bifenture EC to the soil at	
Cutworms		planting or as a foliar treatment by ground or air at rates of up to	
European Corn Borer		0.4 pt. (0.1 lb. active) per acre.	•
Flea Beetles		Repeat application at 7 day intervals.	}
Leafminers			
Loopers	!	Apply in water at 10-50 gallons/A by ground or 5-50 gallons /A	1
Pepper Weevil		by ground.	ì
Tomato Pinworm			
Tomato Hornworm		Repeat application at 7 day intervals.	<u> </u>
Thrips		· · · ·	
Whitefly			Ĭ
Broad Mite	0.08-0.10 lb. ai	Do not exceed 0.4 lb. a.i. per acre per season.	
Banks Grass Mite	(5.12 to 6.4 fl. oz.		
Carmine Mite	product)		
Fire Ants	• ,		
Lygus spp.			ļ
Twospotted Spider Mite			
Pacific Spider Mite			[

#### SUCCULENT PEAS AND BEANS

CROP	PESTS CONTROLLED	RATE BIFENTURE EC/ACRE	APPLICATION INSTRUCTIONS	PHI (days)
Pea (Pisum spp.) Dwarf pea Edible-pod pea English pea Garden pea Green pea Snow pea Sugar snap pea Pigeon pea Bean (Phaseolus spp.): Broadbean (succulent) Lima bean (green) Runner bean Snap bean Wax bean Bean (Vigna spp.): Asparagus bean Blackeyed pea Chinese longbean Cowpeas Moth bean Southern pea Yardlong bean Jackbean Soybean (immature seed) Sword bean	Flea Beetle Grasshoppers Aster Leafhopper Leafhoppers Alfalfa Caterpillar Aphids Bean Leaf Beetle Beet Armyworm Cloverworm Corn Earworm Corn Rootworm (Adult) Cucumber Beetles Cutworms European Corn Borer Fall Armyworm Japanese Beetle	1	Apply in a minimum of 10 gallons/A by ground or in a minimum of 2 gallons/A by air. When applying by air, substitute 1-2 quarts of emulsified oil for 1-2 quarts water if desired.  For best control thorough coverage is necessary.  Do not apply more than 0.2 lb. a.i. (12.8 fl. oz. product) per acre per season.	
	(Adult) Loopers Pea Leaf Weevil Pea Weevil Plant Bug Sap Beetle Southern Armyworm Stink Bugs Tarnished Plant Bug Thrips Webworms Western Bean Cutworm Yellowstriped Armyworm Whitefly Banks Grass Mite Carmine Mite Lygus spp. Twospotted Spider Mite	0.08-0.10 lb. ai (5.12-6.4 fl. oz. product)		

### TOMATOES

TOMATOES							
PESTS CONTROLLED	RATE BIFENTURE	APPLICATION INSTRUCTIONS	PHI				
	EC/ACRE		(days)				
Aphids	0.033-0.08 lb. ai	Apply in water using a minimum of 15	1				
Armyworms - Including:	(2.1-5.2 fl. oz.	gallons/A by ground.					
Beat Armyworm, Fall	product)						
Armyworm, Southern		For best control, thorough coverage is					
Yellowstriped Armyworm		necessary.					
Bean Leaf Beetle							
Cabbageworm		Repeat applications at 10 day intervals.					
Carmine Mite							
Cloverworm		Apply as needed but do not make more					
Corn Earworm		than 4 applications per season.					
Corn Rootworm	•						
Cucumber Beetles							
Cutworms							
Diamondback Moth							
European Corn Borer							
Flea Beetles							
Flea Hopper							
Grasshopper							
Japanese Beetle (Adult)							
Leafhoppers							
Loopers							
Lygus spp.							
Melonworm							
Pea Weevil							
Pea Leaf Weevil							
Pickleworm							
Plant Bug							
Rindworm							
Salt Marsh Caterpillar							
Sap Beetle							
Seedpod Weevil							
Squash Bugs							
Stink Bug spp.							
Tobacco Budworm							
Tarnished Plant Bug							
Thrips							
Two Spotted Spider Mite							
Whitefly							

# MPORTANT INFORMATION READ BEFORE USING PRODUCT

### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. The Directions for Use of this product reflect the opinion of experts based on field use and tests. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of United Phosphorus, Inc. or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of United Phosphorus, Inc. and Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold United Phosphorus, Inc. and Seller harmless for any claims relating to such factors.

United Phosphorus, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or United Phosphorus, Inc., and Buyer and User assume the risk of any such use. UNITED PHOSPHORUS, INC. MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent allowed by law, United Phosphorus, Inc. or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF UNITED PHOSPHORUS, INC. AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF UNITED PHOSPHORUS, INC. OR SELLER, THE REPLACEMENT OF THE PRODUCT.

United Phosphorus, Inc. and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of United Phosphorus, Inc.

Ammo, Capture, Mustang – trademarks of FMC Corporation Ambush, Karate – trademarks of a Syngenta Group Company. Asana – trademark of E.I. duPont de Nemours & Company Baythroid – trademark of Bayer Danitol – trademark of Sumitomo Chemical Company, Ltd. Scout Xtra – trademark of Hoechst Schering Agrevo S.A.

### RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

### BIFENTURETM EC AGRICULTURAL INSECTICIDE

### BIFENTURE EC AGRICULTURAL INSECTICIDE IS NOT FOR SALE OR USE IN CALIFORNIA.

Active Ingredient:	By Wt.
Bifenthrin* (2 methyl[1,1 -biphenyl]-3-yl) methyl 3-(2-chloro-3,	,3,3-trifluoro-
1-propenyl)-2,2-dimethylcyclopropanecarboxylate	
Inert Ingredients**:	
TOTAL	100.0%

<sup>\*</sup>Cis isomers 97% minimum, trans isomers 3% maximum.

This product contains 2 pounds active ingredient per gallon.

### KEEP OUT OF REACH OF CHILDREN WARNING AVISO

This label must be in the possession of the user at the time of application.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

	FIRST AID
If swallowed	<ul> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>Do not give any liquid to the person.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
If in eyes	<ul> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
If inhaled	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
If on skin or clothing	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>

### NOTE TO PHYSICIAN

This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR EMERGENCY MEDICAL ASSISTANCE, CALL THE NATIONAL PESTICIDE INFORMATION CENTER 1-800-858-7378.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.



Manufactured for: United Phosphorus, Inc. 423 Riverview Plaza • Trenton, NJ 08611 1-800-247-1557 • www.upi-usa.com

EPA Reg. No. 70506-57 EPA Est. No. Net Contents:

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<sup>\*\*</sup>Contain xylene range aromatic solvents

# PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals Warning

WARNING. May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield or safety glasses). Harmful if absorbed through skin or inhaled. Avoid breathing spray mist. Avoid contact with skin. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

### Personal Protective Equipment (PPE):

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

### Handlers who may be exposed to the dilute through application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber or Viton
- Shoes plus socks

### Handlers who may be exposed to the concentrate through mixing, loading, application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber, or Viton
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### **Environmental Hazards**

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

### Physical/Chemical Hazards

Do not use or store near heat or open flame.

### DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Resistance: Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

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If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control in your area.

BIFENTURE is an insecticide. Any insect/mite population may contain individual insects that may develop resistance to a specific pesticide product used in consecutive generations to control these pests. Prediction of resistance development is uncertain. Appropriate resistance management strategies should be followed. Contact your local extension specialist or certified crop advisors for any additional pesticide resistance management and/or Integrated Pest Management recommendations for the specific site and pest problems in your area.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls.
- Chemical-resistant gloves, such as barrier laminate or nitrile rubber or neoprene rubber or Viton.
- Shoes plus socks.

#### STORAGE AND DISPOSAL

Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

Pesticide Storage: Do not freeze. Do not sstore below above 40°F. If crystals are observed, warm material to above 60°F by placing in warm location. Shake or roll container periodically to redissolve solids.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.

To Confine Spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Container Disposal: Metal or Plastic Container: Triple rinse (or equivalent), then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

Returnable, Refillable Containers: Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase. Refillable/re-usable containers should be returned to the point of purchase for cleaning and refilling because the container must be thoroughly cleaned before refilling.

#### **Chemigation Use Directions**

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

<u>Use For LEPA irrigation</u> a minimum of 0.75 inch of water per acre <u>ifor LEPA irrigation</u> s recommended. <u>Use 1 to 2 pints per Acre of Where</u> non-emulsified oils <u>when are</u> used as the diluent, 1 to 2 pints per acre is recommended.

The set up and calibration of chemigation equipment are important to achieve control of target insect pests. Results from utilizing ehemigation have been variable and depend upon the set up and calibration of equipment. Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. You should contact your State Agricultural Extension Service specialists, equipment manufacturers or other experts for advice consultation on the suitability of the equipment set up for optimum to obtain effective control of the target insect pests.

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease application during a mechanical stoppage may result in undesirable residues to adjacent areas.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Apply Bifenture EC Agricultural Insecticide should be applied continuously for the duration of the water application. Dilute Bifenture EC Agricultural Insecticide should be diluted in sufficient volume to ensure accurate application over the area to be treated. Use When using chemigation, a minimum of 0.5 inch per acre of irrigation water for application by chemigationis recommended. No aAgitation generally is not required if when a suitable diluent is used. Conduct aA diluent test should be conducted to check ensure that phase separation will not occur during dilution and application. If Failure to achieve a uniform dilution is not achieved during throughout the entire period time of application, may result in undesirable residues or less than desirable control may occur.

### Rotational Crop Restrictionss

Crops for which bifenthrin tolerances exist may be rotated at any time. All other crops may be rotated 30 days after the last application.

### Tank-Mixesture

Apply Bifenture EC Agricultural Insecticide may be applied in tank mixtures with other products registered for the same approved for use on registered crops. User should comply with Observe-all application directions, restrictions, and precautions on the EPA-registered which appear on the labels for other tank mix partners of these products. Test for compatibility of products before mixing.



### **Application Instructions**

Rate of application is variable according to pest pressure, timing of sprays, and field scouting. Use lower rates under light to moderate infestations; higher rates under heavy insect pressure and for mite control. Arid climates generally require higher rates.

Cultivation within 10 feet of a water body is prohibited to allow for the growth of a vegetated filter strip.

In New York State this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of eoastal marshes or streams that drain into coastal marshes.

### **Spray Drift Precautions**

Maintain and calibrate aAll aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS (SUCH AS LAKES, RESERVOIRS, RIVERS, PERMANENT STREAMS, MARSHES, OR-NATURAL PONDS, ESTUARIES ORAND COMMERCIAL FISH FARM PONDS OBSERVE THESE PRECAUTIONS.

- Do not apply by ground equipment within 25 feet, or by air within 150 feet of aquatic areaslakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds. Increase Tthe buffer zone must be increased to 450 feet when ultra low volume (ULV) application is made in cotton. Do not uUse of ultra low volume (ULV) applications to on corn and hops is prohibited.
- When applied by air, mount For aerial applications, the spray boom should be mounted on the aircraft so as to minimize drift caused by wingtip or rotor vortices or wingtip. Use the minimum practical boom length should be used which and must not exceed 75% of wing span or rotor diameter.
- Select the appropriate nozzle sizes to form the largest spray droplets that provide sufficient coverage and control. Use the
  largest droplet size consistent with good pest control. Minimize the fFormation of very small droplets may be minimized by
  appropriate nozzle selection, by orienting pointing the nozzles away from the air stream as much as possible, and by avoiding
  excessive spray boom pressure.
- Do not apply the sSpray should be released at the lowest heights greater than 10 feet above the crop canopy, but at the lowest height to ensure consistent with pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided.
- Apply by air or ground when wind speed is between Make aerial or ground applications when the wind velocity favors on target product deposition (approximately 3 and to 10 mph, and not greater than ). Do not apply when wind velocity exceeds 15 mph. Avoid applications when wind gusts approach 15 mph.
- Do not apply when wind is blowing Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is towards the aquatic area.
- <u>Do not cultivate within 10 feet of the aquatic areas so as to aAllow a 10 foot growth of a vegetative filter strip to grow between the aquatic areas and the treated crop.</u>
- Do not spray during conditions of II—ow humidity and high temperatures because of the increased likelihood of increase the
  evaporation rate of spray droplets and therefore the likelihood of increased spray drift to aquatic areas. Avoid spraying during
  conditions of low humidity and/or high temperature.
- Do not apply using make aerial or ground applications during temperature inversions. Do not make aerial or ground applications to corn if heavy rainfall is imminent. An illnversions can be identified by the presence of ground fog in humid areas or by lateral movement of smoke (under low wind conditions) from a ground source or a smoke generator. are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of

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an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

### **Instructions for Application**

The following Directions for Use tables provide, in some cases, rate ranges. Use the lower application rates when insect pressure is light to moderate. Use the higher application rates when insect populations are high, when treating mites and when climate is arid.

Allow a 10 foot vegetative filter strip to grow between the aquatic areas and the treated crop.

> Fritz

In New York State this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

### INDEX TO CROPS LISTED ON THIS LABEL

Artichokes

Brassicas

Caneberries

Canola, Crambe, Rapeseed

Citrus (Not for this use in Florida)

Cotton

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (At Plant Use)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (PRE & PPI)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (Foliar Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (At Plant Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (Foliar Use)

Cucurbits

Eggplant

Grapes

Hops

Lettuce, Head

Pears

Peppers, Bell and Non-Bell

Spinach

Succulent Peas and Beans

Tomatoes

# **ARTICHOKES**

PESTS CONTROLLED	DOSAGE FL OZ/ARATE BIFENTURE EC/ACRE	REMARKS AND RESTRICTIONS APPLICATION INSTRUCTIONS	PHI (days)
Artichoke Plume Moth Cribrate Weevil	0.10 lb. ai (6.4 fl. oz. product)	Apply Begin applications when pest population reaches damaging threshold levels: and rRepeat as necessary to maintain control, but not more often than 15 day intervals.  Application by ground: Apply a full cover spray in a minimum of 75 gallons of finished spray per acre.	5
		Application by air: Apply specified dosage in a minimum of 10 gallons per acre.  Apply in water in a minimum of 75 gallons of spray/A by ground or in a minimum of 10 gallons/A by air.  Repeat application at 15 day intervals.  Do not exceed apply more than 0.5 lb. a.i. /A (one quart product) per season. A 5-day preharvest interval must be observed.	

### BRASSICAS

CROP	PESTS	DOSAGE	REMARKS AND RESTRICTIONS APPLICATION	PHI
-	CONTROLLED	FL OZ/ARATE	INSTRUCTIONS	(days)
		BIFENTURE		
		EC/ACRE		
Head and Stem	Aphids	0.033-0.10 lb. ai	Apply in water in a minimum of 10 gallons spray/A by	7
Brassica	Armyworms	(2.1-6.4 fl. oz.	ground or in a minimum of 2 gallons/A by air. Substitute	
Vegetables	Corn Earworm	product)	1-2 quarts of emulsified oil for 1-2 quarts water if desired	
including:	Crickets		when applying by air.	
Broccoli	Cucumber_Beetles		For best control thorough coverage is necessary.	
Brussels Sprouts	Cutworms		Apply in a minimum of 2 gallons of finished spray per acre	
Cabbage	Diamondback Moth		by air or in a minimum of 10 gallons per acre with ground	
Cauliflower	Flea Beetles		equipment. When applying by air, 1-2 quarts of emulsified	
Cavalo Broccolo	Ground Beetles		oil may be substituted for 1-2 quarts of water in the	
Chinese Broccoli	Imported		finished spray. Thorough coverage is essential to achieve	
(gai lon, white	Cabbageworm		control.	
flowering	Leafhoppers			
broccoli)	Loopers		Do not apply more thanexceed 0.5 lb a.i. (1 quart product)	
Chinese Cabbage	Saltmarsh_Caterpillar		per acre per season.	
(napa)	Stink Bugs			
Chinese Mustard	Thrips		Do not make more than 5 applications after bloom.	
Cabbage (gai	Tobacco			
choy)	Budworm		Do not make applications less than 7 days apart.	
Kohlrabi	Whitefly		Repeat applications at 7 day intervals.	
	Wireworm		Do not apply within 7 days of harvest.	
	(Adults)			
	Banks Grass	0.08-0.10 lb. ai		
	Mite	(5.12-6.4 <u>fl. oz.</u>		
	Carmine Mite	product)		
	Lygus spp.	-		
	Pacific Spider			
	Mite			
	Twospotted			
	Spider Mite			

### CANEBERRIES

CROP	PESTS CONTROLLED	DOSAGE FL OZ/ARATE BIFENTURE EC/ACRE	REMARKS AND RESTRICTIONS APPLICATION INSTRUCTIONS	PHI (days)
Caneberries including: Bingleberries Blackberries IDewberries Loganberries Lowberries Marionberries Olallieberries Raspberries Youngberries	Leafrollers Orange Tortrix Root Weevils	0.05-0.10 lb. ai (3.2-6.4 fl. oz. product)	Apply in water in a minimum of 50 gallons/A by ground or in a minimum of 10 gallons/A by air.  For best control thorough coverage of foliage is necessary. Apply by air or ground equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons per acre by air and 50 gallons per acre by ground).  Make one prebloom application and if necessary one postbloom application.  One application may be made pre-bloom and a second application may be made post bloom.  Do not exceed apply more than _0.2 lb. a.i. /A per season.	3
	Spider Mites	0.10 lb. ai (6.4 fl. oz. product)		

# CANOLA, CRAMBE, RAPESEED

PESTS CONTROLLED	DOSAGE FL OZ/ARATE BIFENTURE EC/ACRE	REMARKS AND RESTRICTIONS APPLICATION INSTRUCTIONS	PHI (days)
Aphids Armyworms Cutworms Diamondback Moth Flea Beetle Flea Hopper Grasshopper Loopers Other Lepidopterous Larvae Flant Bug Seedpod Weevil Stink Bugs Thrips Whitefly	0.033-0.04 lb. ai (2.1-2.6 fl. oz. product)	Apply in water in a minimum of 10 gallons/A by ground or in a minimum of 2 gallons/A by air. Substitute 1-2 quarts of emulsified oil for 1-2 quarts water if desired when applying by air.  For best control thorough coverage is necessary.  Apply in a minimum of 2 gallons of finished spray per aere by air or in a minimum of 10 gallons per aere with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  Do not apply more than 0.08 lb. a.i. (5.12 ounces fl. oz. formulated product) per acre per season.  Do not make applications less than 14 days apart. Repeat applications at 14 day intervals.	35

# CITRUS

(Not for this use in	n Florida)
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PEST <u>S</u>	DOSAGERATE	REMARKS AND RESTRICTIONS APPLICATION	PHI
CONTROLLED	BIFENTURE EC/ACRE	INSTRUCTIONS	(days)
Asian Cockroach	<del>16-32 ounces (</del> 0.25-0.50 lb.	Apply to individual citrus resets, when not in solid	1
Diaprepes Root	ai	planted rows, uUseing a hand-gun or shielded	
Weevil (Diaprepes abbreviatus)	(16-32 fl. oz.	sprayer to apply to individual citrus resets, when not	
ire Ants	product)active) per acre	in solid planted rows.	
		Peak emergence of Diaprepes root weevil generally	
		occurs in the spring. Depending on weather	
		conditions, a minor emergence of Diaprepes root	
		weevil may also occur in the fall.	
		If the citrus grove to be treated is in an area where	
		weather conditions are conducive to primary	
		emergence occurring in the spring, Diaprepes Root	
		Weevil: If peak emergence is expected in the spring,	
		use 32 fluid fl. ounces oz. formulated product should	
		be used to obtain the longest residual management of	
		Diaprepes root weevil residual control.	
TITLE TO THE		If the citrus grove to be treated is in an area where	
		weather conditions will promote more than one peak	
		of pest emergence If more than one peak of	
		emergence is anticipated, apply, 16 fluid fl. ounces	
		oz. formulated product in the spring can be applied	
		early season and 16 fluid fl. ounces oz. formulated	
		product in the fall.can be applied later in the season.	
		If emergence extends beyond the residual protection	
		of Bifenture EC, grower is advised to use additional	
		management strategies (i.e. foliar adult control or	
		soil larvae control such as nematodes). Contact your	
		state agricultural Extension Specialist as to the	
		recommendation suited for local conditions.	
		Do not apply through irrigation using any type of chemigation.systems.	
		Do not allow any application of Bifenture EC to	
		contact fruit or foliage. Direct the spray to the base of	
		tree to prevent contact with fruit or foliage.	
		Do not apply more than a total of 0.5 lb ai (32 fl.	
		oz.uid ounces of formulated product) (0.5 lb. a.i.) per acre per year.	
		Apply by ground only in the specified dosage in a	
		minimum of 30 gallons/acre of finished spray. per	
		Ground application only. Do not apply by air.	
		Do not apply within 1 day of harvest.	

### COTTON

PESTS CONTROLLED	DOSAGE FL-OZ/ARATE BIFENTURE EC/ACRE	REMARKS AND RESTRICTIONS APPLICATION INSTRUCTIONS		
European Corn Borer Soybean (Banded) Thrips Tobacco Thrips	0.02-0.10 lb, ai (1.3-6.4 fl. oz. product)	Apply Bifenture EC may be applied in water or refined vegetable oil (soybean/cottonseed_oil.).  Apply in water in a minimum of 5 gallons/A by ground or a minimum of 1 gallon/A by air.  Substitute 1 quart of emulsified oil for 1 quart water if desired when applying by air.  Application in Water: Apply in a minimum of 5 gallons per acre with ground equipment or 1 gallon per acre by aircraft. When applying by air, 1 quart of emulsified oil may be substituted for one quart of water in the finished spray.	14	
Boll Weevil Bollworm Cabbage Looper Cotton Aphid Cotton Fleahopper Cotton Leafperforator Cutworms Fall Armyworm Plant Bugs Saltmarsh Caterpillar Southern Garden Leafhopper Stink Bugs Tobacco Budworm Whitefly Yellow Striped Armyworm	0.04-0.10 lb. ai (2.6-6.4 fl. oz. product)	ULV Application: Apply the recommended rate of Bifenture EC in refined vegetable oil inin a minimum of 1 quart/A of finished spray per aere with aircraft calibrated to give adequate coverage.  To Control Boll Weevil: Apply Bifenture EC at an interval ofevery 3 to 4 days until pest numbers are reduced to acceptable levelscontrol is acceptable.  To Control Mites and Aphids: Apply when pests first appear.  Repeat as necessary to maintain control.  Use the Hhigher rates will be required once a damaging threshold is established.  Do not a pply no more than 0.5 lb. a.i. per acre per season.		
Beet Armyworm Carmine Spider Mite Lygus spp. Pink Bollworm Twospotted Spider Mite	0.06-0.10 lb. ai (3.8-6.4 fl. oz. product)	Do not make No more than 10 synthetic pyrethroid applications (of one product or combination of products, including Ambush®, Ammo®, Asana® XL, Baythroid®, Capture®, Danitol®, Karate®, Mustang®, and Scout X-TRA®) may be to-made o a cotton crop in one growing season. Synthetic pyrethroid products include Ambush®, Ammo®, Asana® XL, Baythroid®, Capture®, Danitol®, Karate®, Mustang®, and Scout X-TRA®.  Do not graze livestock in treated areas or cut treated crops for feed.		

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (AT PLANT USE)

PESTS CONTROLLED	DOSAGE RATE BIFENTURE EC	REMARKS AND RESTRICTIONS APPLICATION INSTRUCTIONS	PHI (days)
Corn Rootworm, Larvae Northern Southern Western	0.0046 lb ai (0.30 fl_uid ounces-oz. product) per 1,000 linear feet of row	Apply at planting over the open seed furrow as a 5 to 7 inch T band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe, in front of the press wheel centered over the row. Use tThe table below describes the amount of to determine the Bifenture EC neededs per acre. Apply in water in a minimum of 3 gallons/A of finished spray per acre.	30
		Mix Bifenture EC with water or fertilizer in the following manner. When using Bifenture EC with fertilizers, check to be sure all components are compatible. For mixture with water or fertilizer, use the following procedure. FFill the spray tank approximately one-half full with water or liquid fertilizer; add the proper amount of Bifenture EC; then add the rest of the water or fertilizer. Provide sSufficient agitation during mixing and application is required to maintain to ensure a uniform spray mixture.	
Army Cutworm Cutworm Species	0.0023 – 0.0046 lb ai	Applications of Bifenture EC alone or in recommended tank mixtures, in conjunction with in furrow pop-up fertilizers may be used. A jar	
Grubs Seed Corn Beetle Seed Corn Maggot True Armyworm or	(0.15 to- 0.30 fl.uid oz. product)ounces per 1,000	eompatibility test should be performed with appropriate ratio of Bifenture EC and fertilizer to ensure mixture will stay in solution. Constant agitation should be maintained during mixing and application.	
Armyworm Species Wireworm	linear feet of row	Do not apply to soil where there is greater than 30% cover of crop residue remaining. Only apply to soil when there is less than 30% cover of crop residue remaining.	
		Do not graze livestock in treated area or cut treated crops for feed within 30 days of treatment.	
		Do not apply more than 0.1 lb. active per acre per season as an at planting.	
		Do not apply within 30 days of harvest.	

Row spacings (inches)	40 <u>in.</u>	38 <u>in.</u>	36 <u>in.</u>	30 <u>in.</u>
Bifenture EC (lb. a.i. per acre)	0.060	0.064	0.069	0.080
Bifenture EC (formulated product, ounces per acre)	3.9	4.1	4.4	5.12

### FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED Pre-Plant Incorporated (PPI) and Pre-Emergence (PRE)

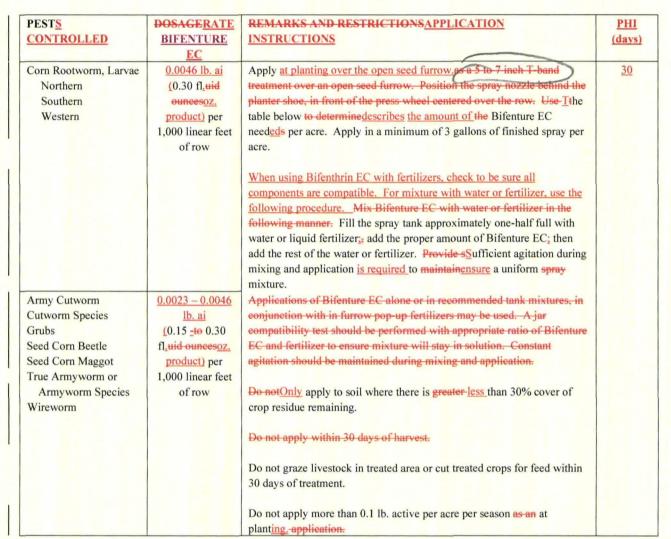
PESTS CONTROLLED		ERATE URE EC	REMARKS AND RESTRICTIONS APPLICATION INSTRUCTIONS
Armyworm spp. Black Cutworm Seedcorn Maggot Stalkborer White Grub Wireworm	0.047 to 0.062 lb. a.i./A (3-4 fl. oz/A product) Pre- Plant Incorporated (PPI)	3 to 4 fl. oz./A Pre- Plant Incorporated (PPI)	Incorporate Bifenture EC close to the expected depth of the seed, but no deeper than 3 inches.  PPI: Use Tthe 3-4 oz./A rate only. Apply alone or with PPI herbicides as a tank mix.must be applied as PPI and can be tankmixed and applied with PPI herbicides.  PRE: Use Tthe 2.56 oz/A rate may be applied PRE and can be when tankmixeding and applyingied with PRE herbicides. Incorporation of Bifenture EC should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth.
Armyworm spp. Black Cutworm Stalkborer	0.040 lb. a.i./A (2.56 fl. oz./A product) Pre- emergence (PRE)	2.56 fl. oz. /A Pre- emergence (PRE)	

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (FOLIAR USE)

PESTS CONTROLLED  DOSAGE FL OZ/ARATE BIFENTURE EC/ACRE		REMARKS AND RESTRICTIONS APPLICATION INSTRUCTIONS		
Aphids	0.033-0.10 lb ai	Apply in a minimum of 2-5 gallons of finished spray per acre by	30	
Army Cutworm	(2.1-6.4 <u>fl. oz.</u>	aircraft or in a minimum of 10 gallons per acre with ground		
Beet Armyworm	product)	equipment. Apply in water in a minimum of 10 gallons/A by		
Cereal Leaf Beetle		ground or in a minimum of 2-5 gallons/A by air. To improve		
Chinch Bug		control For heavy infestations by aircraft, use 5 gallons of finished		
Common Stalk Borer		spray per acreby aircraft. particularly when initial populations		
Corn Earworm		are heavier than normal. Substitute 1-2 quarts of emulsified oil for		
Corn Rootworm Adults		1-2 quarts water if desired.		
Cucumber Beetle Adult		For best control thorough coverage is necessary.		
Cutworm Species		When applying by air, 1-2 quarts of emulsified oil may be		
European Corn Borer		substituted for 1-2 quarts of water in the finished spray. Thorough		
Fall Armyworm		coverage is essential to achieve control.		
Flea Beetle		To Control		
Grasshoppers		Ear-Attacking Pests: Apply Bifenture EC just before silking and		
Greenbug		repeat as necessary to maintain control.		
Japanese Beetle Adult				
Sap Beetle		Southwestern Corn Borer, European Corn Borer: Make		
Southern Armyworm		Apply application for corn borer control with initial application at		
Southern Corn Leaf Beetle		or shortly before egg hatch.		
Southwestern Corn Borer				
Stinkbugs		For Control of Other Insect Pests: Apply when pests insects		
Tarnished Plant Bug		first appear and repeat as necessary. Repeat as needed.		
True Armyworm or		,		
Armyworm Species		For Control of Banks Grass Mites: Apply for Banks Grass Mite		
Webworms		control when colonies first form prior before to leaf damage or		
Western Bean Cutworm		discoloration and before prior to dispersal movement above the		
Yellowstriped Armyworm		bottom third of the plant.		
		For Twospotted Spider Mite and Carmine Mite Control:		
		Apply when colonies first form prior beforeto leaf damage or		
		discoloration and before wide-spread mite dispersal movement		
		throughout the canopy.		
		Use the Hhigher rates will be necessary forif heavier initial		
		populations insect pressure is noted and corn is under heat or		
		drought stress. Field experience Tank mixtures - with dimethoate at		
		0.5 lb. a.i. per acre in tank mixture has demonstrated good		
		eontrolare effective under these conditions.		
		Mite Control in Texas, New Mexico, Oklahoma, and Arizona:		
		Apply in water in a minimum of 510 gallons/A of finished spray		
		per acre by aircraftground or in a		
		For minimum of 105 gallons/A per acre with ground equipment by A by air.		
Banks Grass Mite	0.08-0.10 lb. ai	Repeat applications as necessary to maintain control, but Dodo not		
Carmine Mite	(5.12-6.4 fl. oz.	apply more than 0.3 lb. active per acre per season including PRE		
Twospotted Spider Mite	product)	& PPI, at plant plus foliar applications.		
	producti	2 , at plant plus foliat applications.		
		Do not graze livestock in treated areas or cut treated crops for feed		

Use of Do not apply by -ultra low volume (ULV) application on corn is prohibited.
If heavy rainfall is imminent, Ddo not make aerial or ground applications to corn if heavy rainfall is imminent.
Use of Bifenture EC Agricultural Insecticide on corn is prohibited in all coastal counties.  Do not apply within 30 days of harvest.

### SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (AT PLANT USE)



Row Spacings (inches)	40 <u>in.</u>	38 <u>in.</u>	36 <u>in.</u>	30 <u>in.</u>
Bifenture EC (lb. a.i. per acre)	0.060	0.064	0.069	0.080
Bifenture EC (formulated product, ounces per acre)	3.9	4.1	4.4	5.12



### SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (FOLIAR USE)

PESTS CONTROLLED	DOSAGE	REMARKS AND RESTRICTIONS APPLICATION	PHI
	FL	INSTRUCTIONS	(days)
	OZ/ARATE		
	BIFENTURE		
	EC/ACRE		
Aphids	0.033-0.10 lb.	Apply in water in a minimum of 10 gallons/A by ground	
Army Cutworm	ai	or in a minimum of 2-5 gallons/A by air. For heavy	1
Beet Armyworm	(2.1-6.4 fl. oz.	infestations by aircraft, use 5 gallons of finished spray per	
Cereal Leaf Beetle	product)	acre. Substitute 1-2 quarts of emulsified oil for 1-2	
Chinch Bug Common Stalk Borer		quarts water if desired.	
Corn Earworm		For best control, thorough coverage is necessary. Apply	
Corn Rootworm Adults		in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground	
Cucumber Beetle Adult			
		equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water	
Cutworm Species			
European Corn Borer		in the finished spray. Thorough coverage is essential to achieve control.	
Fall Armyworm Flea Beetle		demeve control.	
Grasshoppers Grasshoppers		To Control Ear-Attacking Pests: Apply Bifenture EC	
Greenbug		when just before silking, begins and repeat as necessary	
Japanese Beetle Adult		to maintain control.	
Sap Beetle		to manual control.	
Southern Armyworm		Southwestern Corn Borer, European Corn Borer:	
Southern Corn Leaf Beetle		Make 2 applications for corn borer control Apply twice,	
Southwestern Corn Borer		with the initial first application at or shortly before egg	
Stinkbugs		hatch.	
Tarnished Plant Bug		The state of the s	
True Armyworm or Armyworm Species		For Control of Other Insect Pests: Apply when pests	
Webworms		insects first appear and repeat as necessary. Repeat as	
Western Bean Cutworm		needed.	
Yellowstriped Armyworm			
		For Control of Banks Grass Mites: Apply for Banks	
		Grass Mites control when colonies first form from prior	
		tobefore leaf damage or discoloration and prior tobefore	
		dispersal movement above the bottom third of the plant.	
		For Twospotted Spider Mite and Carmine Mite	
		Control: Apply when colonies first form prior tobefore	
		leaf damage or discoloration and before prior to	
		widespread mite dispersal movement throughout the	
		canopy.	
Banks Grass Mite	0.08-0.10 lb.	Use the Hhigher rates if will be necessary for heavier	
Carmine Mite	ai	initial populationsinsect pressure is noted and corn-is	
Twospotted Spider Mite	(5.12-6.4 <u>fl.</u>	under heat or drought stress.	
	oz. product)		
		Repeat applications as necessary, but Ddo not apply more	
		than 0.2 lb. a.i. (12.8 ouncesfl. oz. formulated product)	
		per acre per season.	
		Do not graze livestock in treated areas of cut treated	
		crops for feed within 1 day of the last application.	
		Use Do not apply byef ultra low volume (ULV) application on corn is prohibited.	

Bifenture EC Agricultural Insecticide Rev. 3-05 MASTER LABEL

If heavy rainfall is imminent, Dodo not make aerial or ground applications to corn if heavy rainfall is imminent.
Use of Bifenture EC on corn is prohibited in all coastal counties. Do not apply within 1 day of harvest.

# **CUCURBITS**

CROP	PESTS	DOSAGE	REMARKS AND	PHI
	CONTROLLED	FL	RESTRICTIONS APPLICATION	(days)
		OZ/ARATE	INSTRUCTIONS	
		BIFENTUR		
		E EC/ACRE		
Chayote (fruit)	Aphids	0.04-0.10 lb.	Apply in water in a minimum of 520	3
Chinese waxgourd	Armyworms	<u>ai</u>	gallons/A of finished spray per acre by	
(Chinese preserving	Cabbage Looper	(2.6-6.4 fl. oz.	airground or in a minimum of 205 gallons/A	
melon)	Corn Earworm	product)	per acre with ground equipment by air. When	
Citron melon	Cucumber Beetles		applying by air, 1-2 quarts of emulsified oil	
Cucumber	Cutworm		many be substituted for 1-2 quarts of water in	
Gherkin	Grasshopper		the finished spray. Thorough coverage is	
Gourd, edible	Leafhoppers		essential to achieve control.	
(includes hyloan,	Melonworm		Substitute 1-2 quarts of emulsified oil for 1-2	
cucuzza), (Luffa	Pickleworm		quarts water if desired.	
spp.) (includes	Plant Bug		For best control thorough coverage is	
hechima, Chinese	Rindworm		necessary.	
okra), (Momordica	Squash Bugs			
spp.) (includes	Squash Vine Borer		Do not apply more than 0.3 lb. a.i. (19.2 fl.	
balsam apple,	Stink Bugs		oz.ounces formulated_product) per acre per	
balsam pear, bitter	Tobacco Budworm		season.	
melon, Chinese				
cucumber)			Do not make apply more than twoice	
Muskmelon (hybrids			applications after bloom.	
and/or cultivars				
of Cucumis melo)			Do not make applications less than 7 days	
(includes			apart.	
true cantaloupe,			Repeat applications at 7 day intervals.	
Cantaloupe,			Do not apply within 3 days of harvest.	

10			
	casaba, crenshaw	Carmine Mite	0.08-0.10 lb.
	melon, golden,	Banks Grass Mite	<u>ai</u>
	pershaw melon,	Lygus spp	(5.12-6.4 <u>fl.</u>
	honeydew melon,	Twospotted Spider	oz. product)
	honey balls, mango	Mite	
	melon, Persian	Whitefly	
	melon, pineapple		
	melon, Santa		
	Claus melon, and		
	snake melon)		
	Pumpkin (Cucurbita spp.)		
	Squash, summer		
1	(includes crookneck		
	squash, scallop		
	squash, straightneck		
1	squash, vegetable		
	marrow, zucchini)		
ı	Squash, winter		
1	(includes butternut		
	Annual Control of the		
	squash, calabaza,		
	hubbard squash		
	(C. mixte; C. pepo),		
	includes acorn		
	squash, spaghetti		
,	squash)		
	Watermelon		
	(includes hybrids and		
	or varieties of Citrullis		
	spp.)		

# **EGGPLANT**

PEST <u>S</u>	DOSAGE	REMARKS AND RESTRICTIONS APPLICATION	PHI
CONTROLLED	FL OZ/ARATE	INSTRUCTIONS	(days)
	BIFENTURE		
	EC/ACRE		
Armyworms	0.033-0.10 lb. ai	Apply in water in a minimum of 102 gallons/A of finished spray per acre	7
Colorado Potato Beetle	(2.1-6.4 <u>fl. oz.</u>	by airby ground or in a minimum of 102 gallons/A per acre with ground	
Corn Earworm	product)	equipment by air. When applying by air, 1-2 quarts of emulsified oil may	
Cucumber Beetle		be substituted for 1-2 quarts of water in the finished spray. Thorough	
European Corn Borer		eoverage is essential to achieve control. Substitute 1-2 quarts of	
Flea Beetle		emulsified oil for 1-2 quarts water if desired.	
Cabbage Looper		For best control thorough coverage is necessary.	
Plant Bug			
Stink Bug			
Thrips		Do not make applications less than 7 days apart. Repeat application at 7	
Tomato Pinworm		day intervals.	
Tomato Hornworm			
Vegetable Leafminer		Do not apply more than 0.2 lb. a.i. (12.8 fl. oz. ounces formulated product)	
Whitefly		per acre per season.	
Banks Grass Mite	0.08-0.10 lb. ai		
Carmine Mite	(5.12-6.4 fl. oz.	Do not apply within 7 days of harvest.	
	product)		
Lygus spp. Pacific Spider Mite	producty		
Twospotted Spider			
Mite			
MILE			

# **GRAPES**

		01111 20	
PEST <u>S</u>	DOSAGE	REMARKS AND RESTRICTIONS APPLICATION	PHI
CONTROLLED	FL OZ/ARATE	INSTRUCTIONS	(days)
	BIFENTURE		
	ECACRE		
Eastern Grape	0.05-0.10 lb. ai	Apply in a minimum of 1025 gallons/A of finished spray by airby ground	30
Leafhopper	(3.2 to 6.4 fl. oz.	or in a minimum of 2510 gallons/A of finished spray with ground	
Variegated Leafhopper	product)	equipment by air.	
Western Grape		When applying by air, 1 to 2 quarts of emulsified oil may be substituted	
Leafhopper		for 1 to 2 quarts of water in the finished spray.	
Black Vine Weevil	0.10 lb. ai	Thorough coverage is essential to achieve control.	
Glasywinged	(6.4 <u>fl. oz.</u>	Substitute 1-2 quarts of emulsified oil for 1-2 quarts water if desired.	
Sharpshooter	product)	For best control thorough coverage is necessary.	
Twospotted Spider		101 000 001 1101 1101 1101 1101 1101 1	
Mite		Use the higher rate Wwhen pestinsect pressure is moderate to severe, use	
		higher rate.	
		Do not apply more than 0.10 lb. a.i. per acre per season.	
		Do not apply within 30 days of harvest.	

# HOPS

	11010	
DOSAGE	REMARKS AND RESTRICTIONS APPLICATION	PHI
FL OZ/ARATE	INSTRUCTIONS	(days)
BIFENTURE		
EC/ACRE		
0.06-0.1 lb. ai	Do not exceed apply more than 0.1 lb. a.i. per acre per application.	14
(3.8-6.4 fl. oz.	Do not apply more than exceed 0.3 lb. a.i. per acre per season.	
product)		
	A spray interval of 21 days between applications must be maintained.	
	Repeat application at 21 day intervals.	
	FL OZ/ARATE BIFENTURE EC/ACRE 0.06-0.1 lb. ai (3.8-6.4 fl. oz.	INSTRUCTIONS  BIFENTURE EC/ACRE  0.06-0.1 lb. ai (3.8-6.4 fl. oz. product)  Do not exceed apply more than 0.1 lb. a.i. per acre per application.  Do not apply more thanexceed 0.3 lb. a.i. per acre per season.  A spray interval of 21 days between applications must be maintained.

Root Weevils	0.05-0.1 lb. ai	
	(3.2-6.4 <u>fl. oz.</u>	A 14 day pre-harvest interval must be observed.
	product)	
Twospotted spider	0.1 lb. ai	Application bBy ground: Full coverage is necessary Ffor best results;
mite	(6.4 <u>fl. oz.</u>	full coverage is essential. For Ecarly season, recommenduse 100-150
	product)	gallons of spray per acre. For Llate season, recommenduse 200-250
		gallons of spray per acre.
		For Root Weevil control, make a directeddirect the spray to the base of
		the plant. Spray up the vine 3 feet up the vine and the soil surface 1.5 to 2
		feet on either side of around the plant.
		Application by air for late season control of tT wospotted spider
		mites, for late season control: Apply no less than at least 6.4 fl. oz. (0.1
		lb. a.i.) per application in a minimum of 10 gallons per acre by air.
		Use of Do not apply by ultra low volume (ULV) application on to hops is prohibited.

LETTUCE, HEAD

PEST <u>S</u>	DOSAGE	REMARKS AND RESTRICTIONS APPLICATION	PHI
CONTROLLED	FL OZ/ARATE	INSTRUCTIONS	(days)
	BIFENTURE		
	EC/ACRE		
Aphids	0.033-0.10 lb. ai	Apply in water as necessary for insect control using in a minimum of 15	7
Armyworms	(2.1-6.4 <u>fl. oz.</u>	gallons/A of finished spray per acre withby ground equipment and or in 5	
Corn Earworm	product)	gallons/A per acre by air. When applying by air, 1-2 quarts of emulsified	
Cucumber Beetles		oil may be substituted for 1-2 quarts of water in the finished spray.	
Cutworms		Thorough coverage is essential to achieve control.	
Diamondback Moth		For air application, substitute 1-2 quarts of emulsified oil for 1-2 quarts	
Flea Beetles		water if desired.	
Imported		For best control thorough coverage is necessary.	
Cabbageworm			
Leafhoppers		Do not make applications less than 7 days apart. Repeat application at 7	
Loopers		day intervals.	
Salt Marsh Caterpillar			
Stink Bug spp.		A maximum of Do not apply more than 0.5 lb. a.i. may be applied per acre	
Tobacco Budworm Whitefly		per season.	
		Do not apply within 7 days of harvest.	
Carmine Mite	0.08-0.10 lb. ai		
Lygus, spp.	(5.12-6.4 fl. oz.		
Twospotted Spider Mite	product)		

# **PEARS**

PEST <u>S</u>	DOSAGE	REMARKS AND RESTRICTIONS APPLICATION	PHI
CONTROLLED	FL-OZ/ARATE	INSTRUCTIONS	(days)
	BIFENTURE		
	EC/ACRE		
Aphids	0.04-0.2 lb. ai	Application bBy ground: Apply as a dilute (minimum of 200 gallons of	14
Coddling Moth	(2.6 to 12.8 <u>fl.</u>	finished spray per acre) or concentrate (minimum of 50 gallons of	
Cutworms	oz. product)	finished spray per acre) spray. in sufficient water to provide thorough	
Green		eoverage. For best control thorough coverage is necessary.	
Fruitworm			
Leafhoppers		Application bBy air: Apply the specified dosage in a minimum of 10	
Leafminers		gallons per acre by air.	
Leafrollers			

Bifenture EC Agricultural Insecticide Rev. 3-05 MASTER LABEL

Lygus spp. Plant Bugs Plum Curculio San Jose Scale (Crawlers) Stink Bugs Tarnished Plant Bugs		Do not apply more than 0.5 lb. active per acre per season with no more than 0.45 lb. active per acre applied after petal fall.  Apply as necessary to maintain control and repeat applications at 30 day intervals rusing a minimum of b 30 day spray interval.  Do not graze livestock in treated orchards or cut treated cover crops for feed.  Do not apply within 14 days of harvest.
Twospotted Spider Mite Yellow Mite European Red Mite	0.06-0.2 lb. ai (8.8 to 12.8 fl. oz. product) 0.08-0.2 lb. ai (5.12 to 12.8 fl. oz. product)	- Do not apply within 14 days of narvest.

# PEPPERS, BELL AND NON-BELL

PESTS CONTROLLED	DOSAGE FL OZ/ARATE BIFENTURE EC/ACRE	REMARKS AND RESTRICTIONS APPLICATION INSTRUCTIONS	PHI (days)
Armyworms Corn Earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Leafminers Loopers Pepper Weevil Thrips Whitefly	0.033-0.1 lb. ai (2.1-6.4 fl. oz. product)	Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply with ground equipment using in water in a minimum of 10 gallons/A by ground of finished spray per aere or a minimum of 2 gallons/A per aere by aircraft.  Do not make applications less than 7 days apart. Repeat application at 7 day intervals.  Apply as needed, but Ddo not apply more than 0.20 lb. a.i. per acre per season.  Do not apply within 7 days of harvest.	7
Broad Mite Carmine Mite Lygus spp. Twospotted Spider Mite	0.08-0.1 lb. ai (5.12-6.4 fl. oz. product)		

# SPINACH

PESTS <u>S</u>	<del>DOSAGE</del> RATE	REMARKS AND RESTRICTIONS APPLICATION	PHI
CONTROLLED	BIFENTURE	INSTRUCTIONS	(days)
	EC/ACRE		
Armyworms	2.1 to 6.4 ounces	For control of wWhiteflies: apply make up to 4 foliar treatments	40
Colorado Potato Beetle	(0.033 to 0.10 lb. <u>ai</u>	of Bifenture EC by ground or air at rates of up to 0.4 pt. (0.1 lb.	
Corn Earworm	active) per acre	active) per acre at minimum 7-day intervals up to a maximum of 4	
Cucumber Beetles	(2.1-6.4 fl. oz.	applications. Repeat applications at 7 day intervals.	
Cutworms	product)		
European Corn Borer		For control of fFire ants: apply make up to 4 applications of	
Flea Beetles		Bifenture EC to the soil (at planting) or as a foliar treatment by	
Leafminers		ground or air at rates of up to 0.4 pt. (0.1 lb. active) per acre. at	
Loopers		minimum 7-day intervals up to a maximum of 4 applications.	
Pepper Weevil		Repeat application at 7 day intervals.	
Tomato Pinworm			
Tomato Hornworm		Apply in water the specified dosage in at 10-505-50 gallons/A of	

Bifenture EC Agricultural Insecticide Rev. 3-05 MASTER LABEL

Thrips Whitefly		finished spray per acre-by air ground or 10-505-50 gallons /Aef finished spray per acre-by ground.
		Do not make applications less than 7 days apart. Repeat application at 7 day intervals.
Broad Mite	0.08-0.10 lb. ai	Do not apply exceed more than 0.4 lb. a,i. per acre per season.
Banks Grass Mite	(5.12 to 6.4 ounces fl.	
Carmine Mite	oz. product)(0.08 to	Do not apply within 40 days of harvest.
Fire Ants	0.10 lb. active) per	
Lygus spp.	aere	
Twospotted Spider Mite		
Pacific Spider Mite		

# SUCCULENT PEAS AND BEANS

CROP	PESTS CONTROLLED	DOSAGE FL OZ/ARATE BIFENTURE EC/ACRE	REMARKS AND RESTRICTIONS APPLICATION INSTRUCTIONS	PHI (days)
Pea (Pisum spp.) Dwarf pea Edible-pod pea English pea Garden pea	Flea Beetle Grasshoppers Aster Leafhopper Leafhoppers	0.025-0.10 lb. ai (1.6-6.4 fl. oz. product)	Apply in a minimum of 210 gallons/A of finished spray per aere by airground or in a minimum of 102 gallons/A per aere with ground equipment by air.  When applying by air, substitute 1-2 quarts of emulsified oil for 1-2 quarts water if desired.	3

Green pea	Alfalfa	0.033-0.10 lb. ai	For best control thorough coverage is necessary.
Snow pea	Caterpillar	(2.1-6.4 <u>fl. oz.</u>	When applying by air, 1-2 quarts of emulsified oil
Sugar snap pea	Aphids	product)	may be substituted for 1-2 quarts of water in the
Pigeon pea	Bean Leaf		finished spray. Thorough coverage is essential to
Bean (Phaseolus	Beetle		achieve control.
spp.):	Beet Armyworm		
Broadbean	Cloverworm		Do not apply more than 0.2 lb. a.i. (12.8 ounces fl. oz.
(succulent)	Corn Earworm		formulated product) per acre per season.
Lima bean	Corn Rootworm		
(green)	(Adult)		Do not apply within 3 days of harvest.
Runner bean	Cucumber		
Snap bean	Beetles		
Wax bean	Cutworms		
Bean (Vigna spp.):	European Corn		
Asparagus bean	Borer		
Blackeyed pea	Fall Armyworm		
Chinese longbean	Japanese Beetle		
Cowpeas	(Adult)		
Moth bean	Loopers		
Southern pea	Pea Leaf Weevil		
Yardlong bean	Pea Weevil		
Jackbean	Plant Bug		
Soybean	Sap Beetle		
(immature seed)	Southern		
Sword bean	Armyworm		
	Stink Bugs		
	Tarnished Plant		
	Bug		
	Thrips		
	Webworms		
	Western Bean		
	Cutworm		
	Yellowstriped		
	Armyworm		
	Whitefly		
	Banks Grass	0.08-0.10 lb. ai	
	Mite	(5.12-6.4 fl. oz.	
	Carmine Mite	product)	
	Lygus spp.		
	Twospotted		
	Spider Mite		

#### TOMATOES

		UMATUES	
PESTS CONTROLLED	DOSAGERATE	REMARKS AND	PHI
	BIFENTURE	RESTRICTIONS APPLICATION	(days)
	EC/ACRE	INSTRUCTIONS	
Aphids	0.033-0.08 lb. ai	Apply in water as necessary for insect	1
Armyworms – Including:	(2.1-5.2 fl.uid ounces	control using a minimum of 15 gallons/A	
Beat Armyworm, Fall	oz. product) (0.033-	of finished spray per acre with by ground.	
Armyworm, Southern	0.08 lb. active) per	equipment.	
Yellowstriped Armyworm	acre		
Bean Leaf Beetle		Thorough coverage is essential to achieve	
Cabbageworm		control. For best control, thorough	
Carmine Mite		coverage is necessary.	
Cloverworm			

Corn Earworm	Do not make applications less than 10
Corn Rootworm	days apart.Repeat applications at 10 day
Cucumber Beetles	intervals.
Cutworms	
Diamondback Moth	A maximum of Apply as needed but do
European Corn Borer	not make more than 4 applications may
Flea Beetles	be applied per season.
Flea Hopper	
Grasshopper	Do not apply within 1 day of harvest.
Japanese Beetle (Adult)	
Leafhoppers	
Loopers	
Lygus spp.	
Melonworm	
Pea Weevil	
Pea Leaf Weevil	
Pickleworm	
Plant Bug	
Rindworm	
Salt Marsh Caterpillar	
Sap Beetle	
Seedpod Weevil	
Squash Bugs	
Stink Bug spp.	
Tobacco Budworm	
Tarnished Plant Bug	
Thrips	
Two Spotted Spider Mite	
Whitefly	

# MPORTANT INFORMATION READ BEFORE USING PRODUCT

### -CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. The Directions for Use of this product reflect the opinion of experts based on field use and tests.—It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of United Phosphorus, Inc. or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of United Phosphorus, Inc. and Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold United Phosphorus, Inc. and Seller harmless for any claims relating to such factors.

United Phosphorus, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or United Phosphorus, Inc., and Buyer and User assume the risk of any such use. UNITED PHOSPHORUS, INC. MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent allowed by law, United Phosphorus, Inc. or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF UNITED PHOSPHORUS, INC. AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF UNITED PHOSPHORUS, INC. OR SELLER, THE REPLACEMENT OF THE PRODUCT.

United Phosphorus, Inc. and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of United Phosphorus, Inc.

Ammo, Capture, Mustang – trademarks of FMC Corporation Ambush, Karate – trademarks of a Syngenta Group Company. Asana – trademark of E.I. duPont de Nemours & Company Baythroid – trademark of Bayer Danitol – trademark of Sumitomo Chemical Company, Ltd. Scout Xtra – trademark of Hoechst Schering Agrevo S.A.

Please read instructions on rever	se before completing form	15 4 - 14		Form Approved, OM	B No. 2070-006	0, Approval expires 5-31	
<b>⊗EPA</b>	United States  Environmental Protection Ag				tion nent	OPP Identifier Num  274897	
		Other					
		gton, DC 2046	or Pesticide – Se	otion I			
Company/Product Numbe		plication to	2. EPA Produ		3 Propos	sed Classification	
70506-57			G. LaRocca	ct Manager	J. Propos	sed Classification	
4. Company/Product (Name)			PM#		Nor	ne x Restricted	
United Phosphorus, Inc/Bifen			13	Review. In accorda	nea with EIE	DA Castian 3(a)(3)	
<ol><li>Name and Address of App United Phosphorus, Inc.</li></ol>	olicant (Include ZIP Code	,		uct is similar or ident			
423 Riverview Plaza			to:			3	
Trenton, NJ 08611			EPA Reg No.				
Check if this is a new ac	ddrass		Product Name				
Check it this is a new at	udress		T Todact Hame				
		S	ection - II				
x Amendment - Explain b	pelow			rinted labels in respo	onse to	11 11 1	
			Agency	letter dated			
Resubmission in respor	nse to Agency letter dated	d		o" Application			
		7 7 7 7 7 7					
Notification – Explain be	elow		Other -	- Explain below			
Explanation: Use additional	page(s) if necessary. (F	or Section I an	d Section II.)				
Label revisions in response to	copyright infringement of	challenge.					
			Section III				
1. Material This Product Will	be Packaged in:		occion in				
Child-Resistant Packaging	Unit Packaging		Water Soluble Packaging 2. Type of Container			of Container	
Yes	Yes		Yes			Metal	
No	No		No	No		Plastic Glass	
*Certification must	If "Yes"	No. per	If "Yes"	f "Yes" No. per		Paper	
be submitted	Unit Packaging wgt.	container	Package wgt	container	Other (Specify)		
3. Location of Net Contents I		4. Size(s)	Retail Container	5. Location of label di		el directions	
Label	Container				On Label	bel accompanying product	
6. Manner in Which Label is	Affixed to Product	Lithog	araph	Other		companying product	
			r glued				
		Stend	ciled				
			Section IV				
Contact Person (Complete	e items directly below for	identification o	f individual to be conta				
			atory Affairs Manager	A CONTRACTOR OF THE PARTY OF TH	phone No. (Ir 392-8200	nclude Area Code)	
	C	ertification	atory rinding Manager	009-		Date Application	
I certify that the statements I l	have made on this form an	d all attachmer				Received	
I acknowledge that any knowin	ngly false or misleading st	atement may be	e punishable by fine or	imprisonment or	3 1		
both under applicable law 2. Signature	100	3. Titl	Α			(Stamped)	
			atory Affairs Manager			,	
Kill. Clew	mer						
4. Typed Name		5. Da	te	7			

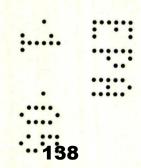
August 31, 2005

EPA Form 8570-1 (Rev. 8-94) Previous editions are obsolete.

Rebecca A. Clemmer

White - EPA File Copy (Original)

Yellow - Applicant Copy





# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

September 6, 2005

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

REBECCA A. CLEMMER UNITED PHOSPHORUS INC 423 RIVERVIEW PLAZA TRENTON, NJ 08611

PRODUCT NAME: BIFENTURE EC AGRICULTURAL INSECTICIDE

COMPANY NAME: UNITED PHOSPHORUS INC

OPP IDENTIFICATION NUMBER: 274897

EPA FILE SYMBOL: 70506-57 EPA RECEIPT DATE: 09/01/05

SUBJECT: RECEIPT OF AMENDMENT

DEAR REGISTRANT:

The Office of Pesticide Programs has received your application for an amendment and it has passed an administrative screen for completeness.

During the initial screen we determined that the application appears to qualify for fast track review. The package will now be forwarded to the Product Manager for review to determine its acceptability for fast track status.

If you have any questions, please contact Registration Division, Risk Management Team 13, at (703) 305-6100.

Sincerely,

Furire

Front End Processing Staff Information Services Branch

Information Technology & Resources Management Division

# Fee for Service



This package includes the following	for Division		
<ul><li>New Registration</li><li>Amendment</li></ul>	○ AD ○ BPPD ○ RD		
□ Studies? □ Fee Waiver? □ volpay % Reduction:	Risk Mgr. 13		
Receipt No. S-	√ 783784		
EPA File Symbol/Reg. No.	70506-57		
Pin-Punch Date:	9/1/05		
This item is NOT subject to	FFS action.		
Action Code:	Parent/Child Decisions:		
Requested:			
Granted:			
Amount Due: \$			
Reviewer: J. Miller Remarks:	Date: 9-6-05		

NON - FEE



# United Phosphorus, Inc.

423 Riverview Plaza Trenton, NJ 08611 (609) 392-8200 x 18 (phone)		Rebecca A. Clemmer Regulatory Affairs Manager	
(609) 392	2-0808 (fax)		
		August 31, 2005	·:::·
	e LaRocca (PM 13)		•
	nent Processing Desk (AMEND) of Pesticide Programs (7504C)		••••
	nvironmental Protection Agency		•••••
	Bell Street	•••••	•••••
Arling	ton, VA 22202	,••••	•
			•
Re:	COPYRIGHT INFRINGEMENT ISSUE UP-Star Gold Insecticide (EPA Reg. No. 70 Bifenture EC Agricultural Insecticide (EPA		::::

Dear Mr. LaRocca:

United Phosphorus, Inc., in response to a copyright challenge, has revised the subject labels and is submitting them to you for review and approval. Enclosed please find the following in support of this action:

- EPA Form 8570-1 for each product
- Four clean copies of each label
- One copy of each label, marked to show changes
- One electronic copy of each of the above labels, marked and unmarked
- Label Data Integrity Form for each set of labels.

Since no data are submitted with this amendment, nor do data need to be reviewed, United Phosphorus believes this amendment does not require a Pesticide Registration Service Fee as defined in the Pesticide Registration Improvement Act of 2003.

Please contact me if you have any questions.

Very truly yours,

Rebecca A. Clemmer

rclemmer@upi-usa.com

# Certification with Respect to Label Integrity

version: 9/11/02

I certify that the information (including, but not limited to, text, tables, and graphics) contained in the electronic file identified below by file name and submitted with this certification is the same information as that on the paper copies of these documents included with this submission.

PROPOSED LABEL				
EPA Registration #	Date Submitted to EPA	Electronic file name		
70506-57	8/31/05	070506-57.20050831.draftlabel.pdf 070506-57.20050831.redlinelabel.pdf		

I certify that the statements that I have made on this form are true, accurate, and complete. I acknowledge that any knowingly false or misleading statements may be punishable by fine or imprisonment or both under applicable law.

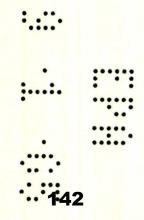
Robecca a Clemmer 08/31/2005
Signature Date

Rebecca A. Clemmer

Name (typed)

Regulatory Affairs Manager

Title



The Electronic Copy of the Label Submitted with this Application has been Removed by the Front End Processing Unit for Entry in the Electronic Label Library (ELL).

Please contact either Tom Harris (RD) or Bob Schultz (IRSD/ISB) for Assistance.

Please Read All Instructions Before Completing this Form (Form must be typed)

Form Approved. OMB. No. 2070-0044



United States

# **Environmental Protection Agency**

Office of Pesticide Programs (7505C) Washington, DC 20460

### Notice of Supplemental Distribution of a Registered Pesticide Product

### Instructions

After a registrant has obtained final registration for the basic product, the registrant may then supplementally distribute his/her product. One form must be submitted for each distributor product and must be signed by the distributor involved. The basic registration number and the distributor company number must be shown.

If a registrant has a potential distributor who does not have a company number assigned, she/he should have the distributor apply, on letterhead stationery, to the Registration Division to have a number assigned prior to submitting this form to the agency.

This Notice of Supplemental Distribution must be submitted by the basic registrant. The completed form must have the concurrence and signature of both the registrant and the distributor.

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de
•

### Read All Conditions Before Signing

- 1. The distributor product must have the same composition as the basic product.
- The distributor product must be manufactured and packaged by the same person who manufactures and packages the registered basic product.
- The labeling for the distributor product must bear the same claims as the basic product, provided, however, that specific claims may be deleted if by doing so, no other changes to the label are necessary.
- 4. The product must remain in the manufacturer's unbroken container.
- The label must bear the EPA registration number of the basic product, followed by a hyphen and the distributor's company number.
- Distributor product labels must bear the name and address of the distributor qualified by such terms as "packed for...", "distributed by..."; or "sold by..." to show that the name is not that of the manufacturer.
- All conditions of the basic registration apply equally to distributor products. It is the responsibility of the basic registrant to see that all distributor labeling is kept in compliance with requirements placed on the basic product.

### Distributor

We intend to market our product under the Distributor Product Name specified above, subject to the conditions specified on this Notice.

Signature and Title of Distributor

Date

Gary Halvorson Registration Manager

2/10/1005

#### Registrant

I agree that the distributor named above may distribute and sell the Distributor Product specified above, subject to the conditions specified on this

Signature and Title of Registrant

JOHRAS S. PRITCHARD GENERAL MANAGER

Date

2/10/1005

EPA Form 8570-5 (Rev. 8-94) Previous editions are obsolete.

White - EPA

109111

Please Read All Instructions Before Completing this Form (Form must be typed) Form Approved. OMB No. 2070-0044. Approval Expires 1-31-96

0 0000

United States Environmental Protection Agency Office of Pesticide Programs (H7505C) 401 M Street SW Washington, DC 20460

# Notice of Supplemental Distribution of a Registered Pesticide Product

### Instructions

After a registrant has obtained final registration for the basic product, the registrant may then supplementally distribute his/her product. One form must be submitted for each distributor product and must be signed by the distributor involved. The basic registration number and the distributor company number must be shown.

If a registrant has a potential distributor who does not have a company number assigned, she/he should have the distributor apply, on letterhead stationary, to the Registration Division to have a number assigned prior to submitting this form to the agency.

This Notice of Supplemental Distribution must be submitted by the basic registrant. The completed form must have the concurrence and signature of both the registrant and the distributor.

**EPA Registration Number of Product** 

Distributor Company Number

70506-57

51036

Note: Do not submit distributor product labels

Distributor Product Name

Name of Registered Product (basic product name accepted by EPA)

Bifenture EC Agricultural Insecticide

**Bifenthrin 2EC AG** 

Name and Address of Distributor (Type; include ZIP code)

Micro Flo Company LLC P.O. Box 772099 Memphis, TN 38117

### Read All Conditions Before Signing

- 1. The distributor product must have the same composition as the basic product.
- 2. The distributor product must be manufactured and packaged by the same person who manufactures and packages the registered basic product.
- 3. The labeling for the distributor product must bear the same claims as the basic product, provided, however, that specific claims may be deleted if by doing so, no other changes to the label are necessary.
- 4. The product must remain in the manufacturer's unbroken container.
- 5. The label must bear the EPA registration number of the basic product, followed by a hyphen and the distributor's company number.
- 6. Distributor product labels must bear the name and address of the distributor qualified by such terms as "packed for ...," distributed by..."; or sold by..." to show that the name is not that of the manufacturer.
- 7. All conditions of the basic registration apply equally to distributor products. It is the responsibility of the basic registrant to see that all distributor labeling is kept in compliance with requirements placed on the basic product.

### Distributor

We intend to market our product under the Distributor Product Name specified above, subject to the conditions specified on this Notice.

Signature and Title of Distributor

Date

Doe Losole Per

\_Regulatory Affairs Manager\_

\_February 22, 2005

## Registrant

l agree that the distributor named above may distribute and sell the Distributor Product specified above, subject to the conditions specified on this Notice.

Signature and Title of Registrant:

Date

2/23/05

EPA Form 8570-5 (Rev. 2-92) Previous editions are obsolete





# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

NOV 15 2004

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

Ms. Rebecca A. Clemmer Regulatory Affairs Manager UNITED PHOSPHORUS, INC 423 Reverview Plaza Trenton, NJ 08611

Subject:

Renewal/Extension of Conditional Registrations

Bifenture EC Agricultural Insecticide

EPA Registration No. 70506-57

Bifenture EC-CA Agricultural Insecticide

EPA Registration No. 70506-58

UP- Cyde 2.5 EC Agricultural Insecticide

EPA Registration No. 70506-20

Your application dated September 30, 2004

Dear Ms. Clemmer:

We have considered your request for renewal/ extension of the conditional registrations for the subject products and the requirement for an expiration date. We agree that the imposition of an expiration date is no longer needed to obtain data or other information provided these registrations remain conditional and the registrant agrees to submit data in a timely manner to allow the Agency to complete its risk assessment and to make FIFRA Sect § 3 (c) (5) or other appropriate regulatory decisions for cotton-use synthetic pyrethroids and other crops conditionally registered. Therefore the subject conditional registrations are amended and renewed without an expiration date since you have agreed to all conditions imposed on the granting of these registrations.

The labeling last approved for the subject product is the label of record. No additional labeling needs to be submitted at this time.

If you have any questions regarding this action, please contact me at (703)305-6100.

Sincerely yours,

George LaRocca Product Manager (13) Insecticides Branch Registration Division (7505C)



# United Phosphorus, Inc.

423 Riverview Plaza Trenton, NJ 08611 (609) 392-8200 x 18 (phone) (609) 392-0808 (fax) Rebecca A. Clemmer Regulatory Affairs Manager

September 30, 2004

Mr. George LaRocca (PM 13)
Document Processing Desk (APPL)
Office of Pesticide Programs (7504C)
U.S. Environmental Protections Agency
1801 Bell Street
Arlington, VA 22202

Re:

Bifenture™ EC Agricultural Insecticide, EPA Reg. No. 70506-57 Bifenture™ EC-CA Agricultural Insecticide, EPA Reg. No. 70506-58

Administrative Submission for Renewal of Registration

Submission of Production Information

Dear Mr. LaRocca:

According to the letter of registration dated August 25, 2004, EPA registration of the subject products is scheduled by EPA to expire on November 15, 2004. United Phosphorus, Inc. is submitting the enclosed application requesting renewal of this registration. We have complied with all conditions set on the granting of these registrations, and request that they be renewed without expiration date.

In support of this action, enclosed please find EPA Form 8570-1 for each product, and a copy of the current product labeling. The labeling is the same as that submitted by us on September 8, which notified USEPA of a change in product name and correction of typographical errors.

Also in the letter of registration, United Phosphorus, Inc. is required to submit production information for the 2004 fiscal year. United Phosphorus, Inc. hereby advises the Agency that there has been no production of either of these products between the date of registration and September 30, 2004.

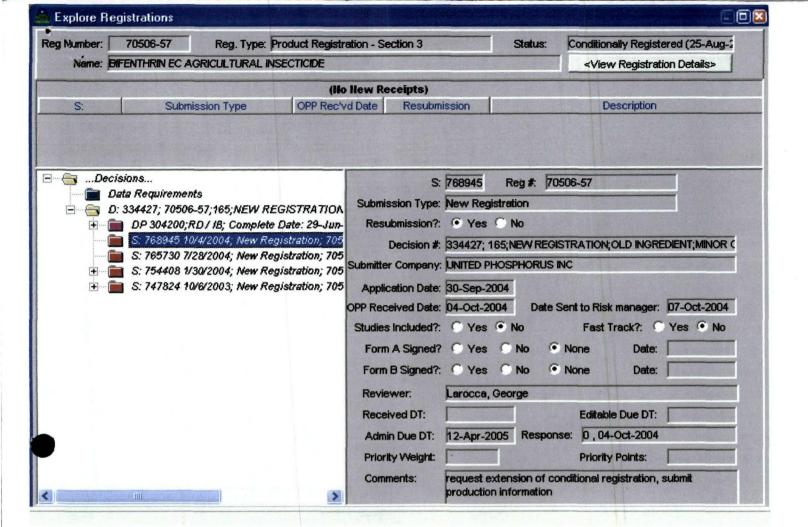
No data are being submitted with this application and no fees are applicable under the requirements of PRIA.

Please contact me if you have any questions.

Very truly yours,

Rebecca A. Clemmer rclemmer@upi-usa.com

Please read instructions on revers	e before completing form		Fo			60, Approval expires 5-31-98
	Unit	ed States		Registration	on	OPP Identifier Number
<b>\$EPA</b>	Environmental	Environmental Protection Agency			ent	274818
	Washing	ton, DC 20460		X Other		
	App	lication for Pe	sticide - Section	on I		
1. Company/Product Number			2. EPA Product M		3. Propo	sed Classification
70506-57  4. Company/Product (Name)			LaRocca PM#		□ No	ne X Restricted
United Phosphorus, Inc/Bifent	ure™ EC Agricultural Inse	ecticide	13		No	ne A Restricted
5. Name and Address of Appl	icant (Include ZIP Code)					RA Section 3(c)(3)
United Phosphorus, Inc. 423 Riverview Plaza			(b)(i), my product i	is similar or identic	al in comp	osition and labeling
Trenton, NJ 08611			EPA Reg No.			
Object Kithin in a new and	Idaaa		Product Name			
Check if this is a new ad	aress		Product Name			
		Secti	on - II			
Amendment - Explain be	elow			d labels in respon	se to	
Resubmission in respons	se to Agency letter dated		"Me Too" A	pplication		
Notification – Explain bel	low		Other – Ex	plain below		
Explanation: Use additional	page(s) if necessary. (Fo	r Section I and Sec	ction II.)			
Administrative renewal of regis	stration as required by req	gistration approval	letter.			
		Secti	ion III			
1. Material This Product Will b	be Packaged in:					
Child-Resistant Packaging	Unit Packaging	Wa	ter Soluble Packagii	ng		of Container
Yes	Yes		Yes			etal astic
No	No		No			ass
*Certification must	If "Yes"		Yes"	No. per		aper
be submitted	Unit Packaging wgt.	container Pa	ckag <mark>e</mark> wgt	container		ther (Specify)
3. Location of Net Contents Ir	nformation	4. Size(s) Retail	Container	5. Loc	cation of la	bel directions
Label	Container				On Label	
6. Manner in Which Label is A	Affixed to Product	Lithograph				ccompanying product
o. mainer in viner East to		Paper glue				
		Stenciled				
Contact Person (Complete	items directly helow for it		idual to be contacte	d if necessary to	nmoocc 4	ais application \
Name (Complete	nems directly below for it	Title	ndual to be contacte			Include Area Code)
Rebecca A. Clemmer			Affairs Manager		92-8200	
I certify that the statements I h		rtification I all attachments the	ereto are true, accura	ate and complete	6	. Date Application Received
I acknowledge that any knowin						
both under applicable law  2. Signature		3. Title				(Stamped)
	00		Affairs Manager			•
Robecca a. (	llumer					
4. Typed Name		5. Date				
Rebecca A. Clemmer		91	30/04			
ED4 E 0880 1 /D 0 0 0 0	Description and the second			ED : EU	• 1	
EPA Form 8570-1 (Rev. 8-94) F	revious editions are obsole	ete.	Whi	te – EPA File Copy	(Original)	Yellow - Applicant Copy
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# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

Office of Pesticide Programs Registration Division (7505C)

# INSECTICIDE BRANCH

Fax

Name: Rebecca Clemmer

Organization: United Phosphorus Inc.

Fax Number: 609-392-0808

**Phone Number:** 

From: George T. LaRocca,

Date: 12/08/2004

**Product Manager (13)** Phone Number:

703/305-6100

Fax Number:

703/305-6596

Subject:Renewal/Extension of Conditional Registrations.

Cover plus 1 Pages:

Comments: Here is a copy of our November 15th, 2004 letter renewing the conditional registrations of certain synthetic pyrethroid products used on cotton. This letter was mailed out around Nov 17th so I am suprised you have not received a hard copy by now unless the address is incorrect.

OCT = 6 2004

Ms. Rebecca A. Clemmer Regulatory Affairs Manger UNITED PHOSPHORUS, INC. 423 Riverview Plaza Trenton, NJ 08611

Dear Ms. Clemmer:

This is in response to your request dated September 7, 2004 to change the primary brand name for **EPA Registration 70506-57** from Bifenthrin<sup>TM</sup> EC Agricultural Insecticide to:

# BIFENTURE™ EC AGRICULTURAL INSECTICIDE

Your request for the name change is accepted and the change will be made to the Agency's records. All future correspondence on this product should reference the new name.

Sincerely yours,

/5/

Sherada D. Hobgood Notifications Review Coordinator Registration Division (7505C)

Form Approved, OMB No. 2070-0060, Approval expires 5-31-98 Please read instructions on reverse before completing form **OPP Identifier Number** Registration **United States** Amendment 274813 **Environmental Protection Agency** Other Washington, DC 20460 Application for Pesticide - Section I 2. EPA Product Manager 3. Proposed Classification 1. Company/Product Number La Rocca 70506-57 PM# 4. Company/Product (Name) X Restricted None United Phosphorus, Inc/Bifenture EC Agricultural Insecticide 6. Expedited Review. In accordance with FIFRA Section 3(c)(3) 5. Name and Address of Applicant (Include ZIP Code) (b)(i), my product is similar or internicatin compositon and labeling United Phosphorus, Inc. 423 Riverview Plaza to: Trenton, NJ 08611 EPA Reg No. UCT - 6 2004 **Product Name** Check if this is a new address Section - II Amendment - Explain below Final printed labels in response to Resubmission in response to Agency letter dated "Me Too" Application Notification - Explain below Other - Explain below Explanation: Use additional page(s) if necessary. (For Section I and Section II.) Notification of product name change and correction of typographical errors. This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA. Section III 1. Material This Product Will be Packaged in: Child-Resistant Packaging Unit Packaging Water Soluble Packaging Type of Container Yes Yes Yes Metal **Plastic** No No No Glass If "Yes" \*Certification must No. per If "Yes' No. per Paper Unit Packaging wgt. container container be submitted Package wgt Other (Specify) Location of Net Contents Information 4. Size(s) Retail Container Location of label directions Container On Label accompanying product 6. Manner in Which Label is Affixed to Product Lithograph Other Paper glued Stenciled Section IV 1. Contact Person (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.) Name Title Telephone No. (Include Area Code) Rebecca A. Clemmer Regulatory Affairs Manager 609-392-8200 Certification 6. Date Application Received I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law 2. Signature (Stamped) Regulatory Affairs Manager Commer 4. Typed Name 5. Date Sept. 7,2004 Rebecca A. Clemmer EPA Form 8570-1 (Rev. 8-94) Previous editions are obsolete. White - EPA File Copy (Original) Yellow - Applicant Co

### RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

## BIFENTURE™ EC AGRICULTURAL INSECTICIDE

BIFENTURE EC AGRICULTURAL INSECTICIDE IS NOT FOR SALE OR USE IN CALIFORNIA.

changed to Bifenture EC

roduct name

\*Cis isomers 97% minimum, trans isomers 3% maximum.

\*\*Contain xylene range aromatic solvents

This product contains 2 pounds active ingredient per gallon.

throughout

# WARNING AVISO

NOTIFICATION

OCT - 6 2004

This label must be in the possession of the user at the time of application.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID							
If swallowed	Call a poison control center or doctor immediately for treatment advice.						
	Do not induce vomiting unless told to do so by the poison control center or doctor.						
	Do not give any liquid to the person.						
	Do not give anything by mouth to an unconscious person.						
If in eyes	Hold eye open and rinse slowly and gently with water for 15-20 minutes.						
	• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.						
	Call a poison control center or doctor for treatment advice.						
If inhaled	Move person to fresh air.						
	• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably						
	by mouth-to-mouth, if possible.						
	Call a poison control center or doctor for further treatment advice.						
If on skin or	Take off contaminated clothing.						
clothing	Rinse skin immediately with plenty of water for 15-20 minutes.						
	Call a poison control center or doctor for treatment advice.						

NOTE TO PHYSICIAN

This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR EMERGENCY MEDICAL ASSISTANCE, CALL THE NATIONAL PESTICIDE INFORMATION CENTER 1-800-858-7378

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.



Manufactured for: United Phosphorus, Inc. 423 Riverview Plaza • Trenton, NJ 08611 1-800-247-1557 • www.upi-usa.com

EPA Reg. No. 70506-57 EPA Est. No. Net Contents:

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..153

# PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals Warning

WARNING. May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield or safety glasses). Harmful if absorbed through skin or inhaled. Avoid breathing spray mist. Avoid contact with skin. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

### Personal Protective Equipment (PPE):

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

### Handlers who may be exposed to the dilute through application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber or Viton
- Shoes plus socks

## Handlers who may be exposed to the concentrate through mixing, loading, application or other tasks must wear:

- · Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber, or Viton
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### **Environmental Hazards**

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

### Physical/Chemical Hazards

Do not use or store near heat or open flame.

## **DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for nesticide regulation.

Resistance: Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

Bifenture EC Agricultural Insecticide MASTER LABEL

Page 2 of 21

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control in your area.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves, such as barrier laminate or nitrile rubber or neoprene rubber or Viton.
- · Shoes plus socks.

### STORAGE AND DISPOSAL

**Pesticide Storage:** Do not freeze. Do not store below 40°F. If crystals are observed, warm material to above 60°F by placing in warm location. Shake or roll container periodically to redissolve solids.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.

To Confine Spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Container Disposal: Metal or Plastic Container: Triple rinse (or equivalent), then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

Returnable, Refillable Containers: Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.



### **Chemigation Use Directions**

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

For LEPA irrigation a minimum of 0.75 inch of water per acre is recommended. Where non-emulsified oils are used as the diluent, 1 to 2 pints per acre is recommended.

Results from utilizing chemigation have been variable and depend upon the set up and calibration of equipment. Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. Contact your State Agricultural Extension Service specialists, equipment manufacturers or other experts for consultation on the suitability of the equipment set up to obtain effective control of the target insect pests.

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease application during a mechanical stoppage may result in undesirable residues to adjacent areas.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Bifenture EC Agricultural Insecticide should be applied continuously for the duration of the water application. Bifenture EC Agricultural Insecticide should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation, a minimum of 0.5 inch per acre of irrigation water is recommended. Agitation generally is not required when a suitable diluent is used. A diluent test should be conducted to ensure that phase separation will not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

## **Rotational Crops**

Crops for which bifenthrin tolerances exist may be rotated at any time. All other crops may be rotated 30 days after the last application.

### Tank-Mixture

Bifenture EC Agricultural Insecticide may be applied in tank mixtures with other products approved for use on registered crops.

Observe all restrictions and precautions which appear on the labels of these products. Test for compatibility of products before mixing.

### **Application Instructions**

Rate of application is variable according to pest pressure, timing of sprays, and field scouting. Use lower rates under light to moderate infestations; higher rates under heavy insect pressure and for mite control. Arid climates generally require higher rates.

Cultivation within 10 feet of a water body is prohibited to allow for the growth of a vegetated filter strip.

In New York State this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

### **Spray Drift Precautions**

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMANENT STREAMS; MARSHES OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.

Do not apply by ground equipment within 25 feet, or by air within 150 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds. Increase the buffer zone to 450 feet when ultra low volume (ULV) application is made in cotton. Use of ultra low volume (ULV) application on corn and hops is prohibited.

For aerial applications, the spray boom should be mounted on the aircraft so as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of wing span or rotor diameter.

Use the largest droplet size consistent with good pest control. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.

Spray should be released at the lowest height consistent with pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided.

Make aerial or ground applications when the wind velocity favors on target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid applications when wind gusts approach 15 mph.

Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

Do not cultivate within 10 feet of the aquatic areas so as to allow growth of a vegetative filter strip.

Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift to aquatic areas. Avoid spraying during conditions of low humidity and/or high temperature.

Do not make aerial or ground applications during temperature inversions. Do not make aerial or ground applications to corn if heavy rainfall is imminent. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

### INDEX TO CROPS LISTED ON THIS LABEL

Artichokes

Brassicas

Caneberries

Canola, Crambe, Rapeseed

Citrus

Cotton

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (At Plant Use)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (PRE & PPI)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (Foliar Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (At Plant Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (Foliar Use)

Cucurbits

Eggplant

Grapes

Hops

Lettuce, Head

Pears

Peppers, Bell and Non-Bell

Spinach

Succulent Peas and Beans

**Tomatoes** 

# **ARTICHOKES**

	DOS	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Artichoke Plume  Moth  Cribrate Weevil	0.10	6.4	Apply when pest population reaches damaging threshold and repeat as necessary to maintain control, but not more often than 15 day intervals.
			Application by ground: Apply a full cover spray in a minimum of 75 gallons of finished spray per acre.
			Application by air: Apply specified dosage in a minimum of 10 gallons per acre.
			Do not exceed 0.5 lb. a.i. /A per season.
			A 5-day preharvest interval must be observed.

# BRASSICAS

Head and Stem Brassica Vegetables including: Broccoli Brussels Sprouts Cauliflower Cavilo Broccoli (gai lon, white flowering broccoli) Chinese Cabbage (napa) Chinese Cabbage (napa) Chinese Chabbage (gai choy) Kohlrabi  Brassels Cabbage (gai choy) Kohlrabi  Brassels Brassels Broccoli Brussels Sprouts Carrine Mite Lygus spp. Pacific Spider Mite Twospotted Saider Mite Carrine Mite Lygus spp. Pacific Spider Mite Twospotted Scient Mite Carrine Mite Lygus spp. Pacific Spider Mite Twospotted Scient Mite Carrine Mite Lygus spp. Pacific Spider Mite Twospotted Scient Mite Carrine Mite Lygus spp. Pacific Spider Mite Twospotted Scient Mite Scient Mite Carrine Mite Lygus spp. Pacific Spider Mite Twospotted Scient Mite Scient Mite Carrine Mite Lygus spp. Pacific Spider Mite Twospotted Scient Mite Carrine Mite Scient Mite Sci			DOSAGE		
Brassica Vegetables including: Broccoli Brussels Sprouts Cabbage Cauliflower Cavalo Broccoli (gai lon, white flowering broccoli) Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy) Kohlrabi  Brassica Vegetables including: Broccoli Brussels Sprouts Cabbage (gai choy) Kohlrabi  Armyworms Corn Earworm Crickets Beetles Cutumber Beetles Cutworms Diamondback Moth Flea Beetles Ground Beetles Imported Cabbage worm Leafthoppers Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Armyworms Corn Earworm Crickets By air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  Do not apply more than 0.5 lb a.i. (1 quart) per acre per season.  Do not make more than 5 applications after bloom.  Do not make applications less than 7 days apart.  Do not apply within 7 days of harvest.  Do not apply within 7 days of harvest.  Sink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted	CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Vegetables including: Broccoli Broscoli Brussels Sprouts Cabbage Cauliflower Cavalo Broccoli (gai lon, white flowering broccoli) Chinese Babbage (napa) Chinese Cabbage (napa) Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy) Caerpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Cutworms Do not apply more than 0.5 lb a.i. (1 quart) per acre per season.  Do not make applications less than 7 days apart.  Do not apply within 7 days of harvest.  Do not apply within 7 days of harvest.  Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)	Head and Stem	Aphids	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre
including: Broccoli Brussels Sprouts Cabbage Cauliflower Cavalo Broccolo Chinese Broccoli (gai lon, white flowering broccoli) Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy) Kohlrabi  Beaks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Cilmurber  Beetles Cutworms Diamondback Moth Plea Beetles Ground Beetles Imported Cabbagevorm Leafhoppers Laghoppers Saltmarsh Caterpillar Stink Bugs Theiga Tobacco Budworm Whitefly Wireworm (Adults)  Carmine Mite Lygus spp. Pacific Spider Mite Twospotted	Brassica	Armyworms			by air or in a minimum of 10 gallons per acre with ground
Broccoli Brussels Sprouts Cabbage Cautiflower Cavalo Broccolo Chinese Broccoli (gai lon, white flowering chapse) Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy) Kohlrabi  Broccoli Brussels Sprouts Cautiflower Cavalo Broccolo Chinese Broccoli (gai lon, white flowering chapse) Cabbage (rapa) Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy) Kohlrabi  Bruscoli Brusceles Cutworms Diamondback Moth Flea Beetles Ground Beetles Imported Cabbageworm Leafhoppers Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Spray. Thorough coverage is essential to achieve control.  Do not apply more than 0.5 lb a.i. (1 quart) per acre per season.  Do not make more than 5 applications after bloom.  Do not make applications less than 7 days of harvest.  Do not apply within 7 days of harvest.  Solvential to achieve control.  Do not make more than 0.5 lb a.i. (1 quart) per acre per season.  Do not make more than 5 applications after bloom.  Do not make applications less than 7 days of harvest.  Do not apply within 7 days of harvest.  Solvential to achieve control.	Vegetables	Corn Earworm			equipment. When applying by air, 1-2 quarts of emulsified
Brussels Sprouts Cabage Cauliflower Cavalo Broccolo Chinese Broccoli (gai lon, white flowering broccoli) Chinese Cabbage (napa) Chinese Cabbage (gai choy) Kohlrabi  Beetles Cutworms Diamondback Moth Flea Beetles Ground Beetles Imported Cabbageworm Leafhoppers Loopers Saltmarsh Caterpillar Stink Bugs Kohlrabi  Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Do not apply more than 0.5 lb a.i. (1 quart) per acre per season.  Do not make more than 5 applications after bloom. Do not make applications less than 7 days apart.  Do not apply within 7 days of harvest.	including:	Crickets			oil may be substituted for 1-2 quarts of water in the finished
Cabage Cauliflower Cavalo Broccolo Chinese Broccoli (gai lon, white flowering broccoli) Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy) Kohlrabi  Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Do not apply more than 0.5 lb a.i. (1 quart) per acre per season.  Do not make more than 5 applications after bloom.  Do not make applications less than 7 days apart.  Do not apply within 7 days of harvest.  Do not apply within 7 days of harvest.	Broccoli	Cucumber			spray. Thorough coverage is essential to achieve control.
Cauliflower Cavalo Broccolo Chinese Broccoli (gai lon, white flowering broccoli) Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy) Kohlrabi  Diamondback Moth Flea Beetles Ground Beetles Imported Cabbageworm Leafhoppers Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Saltmarsh Solventian Solventian Season.  Do not make more than 5 applications after bloom.  Do not make applications less than 7 days apart.  Do not apply within 7 days of harvest.  Season.  Do not make more than 5 applications after bloom.  Solventian 5 applications after bloom.  Solventian 5 applications less than 7 days apart.  Do not apply within 7 days of harvest.  Solventian 5 applications after bloom.  Solventian 5 applications less than 7 days apart.  Do not make applications less than 7 days apart.  Do not apply within 7 days of harvest.  Solventian 5 applications less than 7 days apart.  Solventian 5 applications less than 7 days apart.  Do not make applications less than 7 days apart.  Do not make applications less than 7 days apart.  Do not make applications less than 7 days apart.  Do not make applications less than 7 days apart.  Do not make applications less than 7 days apart.  Do not make applications less than 7 days apart.  Do not make applications less than 7 days apart.  Do not make applications less than 7 days apart.  Do not make applications less than 7 days apart.  Do not make applications less than 7 days apart.  Do not make applications less than 7 days apart.  Do not make applications less than 7 days apart.  Do not apply within 7 days of harvest.		Beetles			
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Chinese Broccoli (gai lon, white flowering broccoli) Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy) Kohlrabi  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Carmine Mite Twospotted  Chinese Russ Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Tobacco Broccoli (Plea Beetles Ground Beetles Imported Cabbageworm Leafhoppers Loopers Saltmarsh Caterpillar Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Do not make more than 5 applications after bloom.  Do not make applications less than 7 days apart.  Do not apply within 7 days of harvest.	Cauliflower	Diamondback			season.
(gai lon, white flowering broccoli)  Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy) Kohlrabi  Chinese Mustard Cabbage (gai choy)  Kohlrabi  Ground Beetles Imported Cabbageworm Leafhopers Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Do not make applications less than 7 days apart.  Do not apply within 7 days of harvest.	Cavalo Broccolo	Moth			
flowering broccoli) Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy) Kohlrabi Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Imported Cabbageworm Leafhoppers Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)  5.12-6.4  Do not make applications less than 7 days apart.  Do not apply within 7 days of harvest.	Chinese Broccoli	Flea Beetles			Do not make more than 5 applications after bloom.
broccoli) Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy) Kohlrabi  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Cabbageworm Leafhoppers Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted	(gai lon, white	Ground Beetles			
Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy) Kohlrabi  Caterpillar Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Do not apply within 7 days of harvest.  Do not apply within 7 days of harvest.	flowering	Imported			Do not make applications less than 7 days apart.
(napa) Chinese Mustard Cabbage (gai choy) Kohlrabi  Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)  5.12-6.4  Mite Twospotted	broccoli)	Cabbageworm			
Chinese Mustard Cabbage (gai choy) Kohlrabi  Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted	Chinese Cabbage	Leafhoppers			Do not apply within 7 days of harvest.
Cabbage (gai choy)  Kohlrabi  Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted	1	<u> </u>			
choy) Kohlrabi  Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted					
Kohlrabi  Thrips Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Thrips Tobacco Budworm S.12-6.4  5.12-6.4					
Tobacco Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  Tobacco Budworm S. 12-6.4  S. 12-6.4	1	_			
Budworm Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted  S.12-6.4	Kohlrabi				
Whitefly Wireworm (Adults)  Banks Grass Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted		Tobacco			
Wireworm (Adults)  Banks Grass 0.08-0.10 5.12-6.4 Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted					
Banks Grass 0.08-0.10 5.12-6.4 Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted					·
Banks Grass 0.08-0.10 5.12-6.4 Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted					
Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted		(Adults)			
Mite Carmine Mite Lygus spp. Pacific Spider Mite Twospotted		Banks Grass	0.08-0.10	5 12-6 4	
Carmine Mite Lygus spp. Pacific Spider Mite Twospotted			0.00 0.10	J.12-0.7	
Lygus spp. Pacific Spider Mite Twospotted					
Pacific Spider  Mite Twospotted		1 3			
Mite Twospotted					
Twospotted		1			
		1			
		Spider Mite			

# **CANEBERRIES**

		DOSA	GE	
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Caneberries including: Bingleberries Blackberries Dewberries Loganberries Lowberries Marionberries	Leafrollers Orange Tortrix Root Weevils	0.05-0.10	3.2-6.4	Apply by air or ground equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons per acre by air and 50 gallons per acre by ground).  One application may be made pre-bloom and a second application may be made post bloom.  Do not exceed 0.2 lb. a.i. /A per season.
Olallieberries Raspberries Youngberries	Spider Mites	0.10	6.4	Do not apply within 3 days of harvest.

# CANOLA, CRAMBE, RAPESEED

	DOS	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.04	2.1-2.6	Apply in a minimum of 2 gallons of finished spray per acre by air or in a
Armyworms	1		minimum of 10 gallons per acre with ground equipment. When applying
Cutworms	1		by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of
Diamondback	1		water in the finished spray. Thorough coverage is essential to achieve
Moth	1		control.
Flea Beetle	1		
Flea Hopper	1		Do not apply more than 0.08 lb. a.i. (5.12 ounces formulated product) per
Grasshopper			acre per season. Do not make applications less than 14 days apart.
Loopers			
Other			Do not apply within 35 days of harvest.
Lepidopterous	1		
Larvae	1		·
Plant Bug	j j		
Seedpod Weevil			
Stink Bugs			
Thrips			
Whitefly			

# **CITRUS**

PEST	DOSAGE	REMARKS AND RESTRICTIONS
Asian Cockroach	16-32 ounces (0.25-0.50 lb. active)	Apply to individual citrus resets, when not in solid
Diaprepes Root Weevil (Diaprepes	per acre	planted rows, using hand-gun or shielded sprayer.
abbreviatus)		Peak emergence of Diaprepes root weevil
Fire Ants		generally occurs in the spring. Depending on
		weather conditions, a minor emergence of
·		Diaprepes root weevil may also occur in the fall.
		If the citrus grove to be treated is in an area where weather conditions are conducive to primary emergence occurring in the spring, 32 fluid ounces formulated product should be used to obtain the longest residual management of Diaprepes root weevil.
		If the citrus grove to be treated is in an area where weather conditions will promote more than one peak of pest emergence, 16 fluid ounces formulated product can be applied early season and 16 fluid ounces formulated product can be applied later in the season.
		If emergence extends beyond the residual protection of Bifenture EC, grower is advised to use additional management strategies (i.e. foliar adult control or soil larvae control such as nematodes). Contact your state agricultural Extension Specialist as to the recommendation suited for local conditions.
		Do not apply through irrigation systems.
		Do not allow any application of Bifenture EC to contact fruit or foliage.
		Do not apply more than a total of 32 fluid ounces of formulated product (0.5 lb. a.i.) per acre per year.
		Apply the specified dosage in a minimum of 30 gallons of finished spray per acre.
		Ground application only. Do not apply by air.
		Do not apply within 1 day of harvest.

# COTTON

	DOS	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
European Corn Borer	0.02-0.10	1.3-6.4	Bifenture EC may be applied in water or refined
Soybean (Banded) Thrips		ł	vegetable oil (soybean/cottonseed).
Tobacco Thrips			
		ł	Application in Water: Apply in a minimum of 5
			gallons per acre with ground equipment or 1 gallon
			per acre by aircraft. When applying by air, 1 quart of
		İ	emulsified oil may be substituted for one quart of
			water in the finished spray.
Boll Weevil	0.04-0.10	2.6-6.4	ULV Application: Apply the recommended rate of
Bollworm			Bifenture EC in refined vegetable oil in a minimum of
Cabbage Looper			1 quart of finished spray per acre with aircraft
Cotton Aphid			calibrated to give adequate coverage.
Cotton Fleahopper		1	
Cotton Leafperforator			To Control Boll Weevil: Apply Bifenture EC at an
Cutworms		:	interval of 3 to 4 days until pest numbers are reduced
Fall Armyworm			to acceptable levels.
Plant Bugs			
Saltmarsh Caterpillar			To Control Mites and Aphids: Apply when pests
Southern Garden Leafhopper			first appear. Repeat as necessary to maintain control.
Stink Bugs			Higher rates will be required once a damaging
Tobacco Budworm			threshold is established.
Whitefly			
Yellow Striped Armyworm	0.000		4
Beet Armyworm	0.06-0.10	3.8-6.4	Do not apply more than 0.5 lb. a.i. per acre per
Carmine Spider Mite			season.
Lygus spp.			
Pink Bollworm			Do not make more than 10 synthetic pyrethroid
Twospotted Spider Mite			applications (of one product or combination of
			products) to a cotton crop in one growing season.
			Synthetic pyrethroid products include Ambush®,
			Ammo <sup>®</sup> , Asana <sup>®</sup> XL, Baythroid <sup>®</sup> , Capture <sup>®</sup> , Danitol <sup>®</sup> , Karate <sup>®</sup> , Mustang <sup>®</sup> , and Scout X-TRA <sup>®</sup> .
			Dannor, Karate, Mustang, and Scout X-1RA.
	1		Do not graze livestock in treated areas or cut treated
			crops for feed.
	1		
			Do not apply within 14 days of harvest.

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (AT PLANT USE)

PEST	DOS	AGE		RE	MARKS AND	RESTRICTIO	NS	
Corn Rootworm, Larvae Northern Southern Western	0.0046 lb. a.i. per 1,000 linear feet of row	0.30 fluid ounces per 1,000 linear feet of row	Apply as a 5 to 7 inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe, in front of the press wheel centered over the row. Use the table below to determine the Bifenture EC needs per acre. Apply in a minimum of 3 gallons of finished spray per acre.  Mix Bifenture EC with water or fertilizer in the following manner. Fill the spray tank approximately one-half full with water or liquid fertilizer, add the proper amount of Bifenture EC then add the rest of the water or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray					
Army Cutworm Cutworm Species Grubs Seed Corn Beetle Seed Corn Maggot True Armyworm or Armyworm Species Wireworm	0.0023 to 0.0046 lb. a.i. per 1,000 linear feet of row	0.15 to 0.30 fluid ounces per 1,000 linear feet of row	Applications of Bifenture EC alone or in recommended tank mixtures, in conjunction with in furrow pop-up fertilizers may be used. A jar compatibility test should be performed with appropriate ratio of Bifenture EC and fertilizer to ensure mixture will stay in solution. Constant agitation should be maintained during mixing and application.  Do not apply to soil where there is greater than 30% cover of crop residue remaining.					
			Do not graze livestock in treated area or cut treated crops for feed within 30 days of treatment.  Do not apply more than 0.1 lb. active per acre per season as an at plant application.  Do not apply within 30 days of harvest.					
Row Spacings (inches)		1	1 Do not app	40	38	36	30	
Bifenture EC Agricultural I	nsecticide (lb	a i per ac	re)	0.060	0.064	0.069	0.080	
Bifenture EC Agricultural I ounces per acre)	<del></del>			3.9	4.1	4.4	5.12	

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED Pre-Plant Incorporated (PPI) and Pre-Emergence (PRE)

PEST	DOS	AGE	REMARKS AND RESTRICTIONS
Armyworm spp. Black Cutworm Seedcorn Maggot Stalkborer White Grub Wireworm	0.047 to 0.062 lb. a.i./A Pre- Plant Incorporated (PPI)	3 to 4 fl. oz./A Pre- Plant Incorporated (PPI)	The 3-4 oz./A rate must be applied as PPI and can be tankmixed and applied with PPI herbicides. Incorporation of Bifenture EC should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth.
Armyworm spp. Black Cutworm Stalkborer	0.040 lb. a.i./A Pre- emergence (PRE)	2.56 fl. oz. /A Pre- emergence (PRE)	The 2.56 oz/A rate may be applied PRE and can be tankmixed and applied with PRE herbicides.

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (FOLIAR USE)

	DOSAGE		
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids Army Cutworm Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm Adults Cucumber Beetle Adult Cutworm Species European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Greenbug Japanese Beetle Adult Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southwestern Corn Borer Stinkbugs Tarnished Plant Bug True Armyworm or Armyworm Species Webworms Western Bean Cutworm Yellowstriped Armyworm	0.033-0.10	2.1-6.4	Apply in a minimum of 2-5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment. To improve control by aircraft, use 5 gallons of finished spray per acre particularly when initial populations are heavier than normal. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  To Control Ear-Attacking Pests: Apply Bifenture EC just before silking and repeat as necessary to maintain control.  Southwestern Corn Borer, European Corn Borer: Make application for corn borer control with initial application at or shortly before egg hatch.  For Control of Other Insect Pests: Apply when pests first appear and repeat as necessary.  For Control of Mites: Apply for Banks Grass Mite control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.  For Twospotted Spider Mite and Carmine Mite Control: Apply when colonies first form prior to leaf damage or discoloration and before wide-spread mite dispersal throughout the canopy.  Higher rates will be necessary for heavier initial populations and corn under heat or drought stress. Field experience with dimethoate at 0.5 lb. a.i. per acre in tank mixture has demonstrated good control under these conditions.
Banks Grass Mite Carmine Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	For Mite Control in Texas, New Mexico, Oklahoma, and Arizona: Apply in a minimum of 5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment.  Do not apply more than 0.3 lb. active per acre per season including PRE & PPI, at plant plus foliar applications.  Do not graze livestock in treated areas or cut treated crops for feed within 30 days of the last application.  Use of ultra low volume (ULV) application on corn is prohibited.  Do not make aerial or ground applications to corn if heavy rainfall is imminent.  Use of Bifenture EC Agricultural Insecticide on corn is prohibited in all coastal counties.  Do not apply within 30 days of harvest.

# SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (AT PLANT USE)

PEST	DOS	AGE		RE	MARKS AND	RESTRICTIO	ONS	
PEST  Corn Rootworm, Larvae  Northern  Southern  Western	0.0046 lb. a.i. per 1,000 linear feet of row	0.30 fluid ounces per 1,000 linear feet of	Apply as a 5 to 7 inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe, in front of the press wheel centered over the row. Use the table below to determine the Bifenture EC needs per acre. Apply in a minimum of 3 gallons of finished spray per acre.  Mix Bifenture EC with water or fertilizer in the following manner. Fill the spray tank approximately one-half full with water or liquid fertilizer, add the proper					
		row	sufficient agitation during mixing and application to maintain a uniform spray mixture.					
Army Cutworm Cutworm Species Grubs Seed Corn Beetle Seed Corn Maggot True Armyworm or	0.0023 to 0.0046 lb. a.i. per 1,000	0.15 to 0.30 fluid ounces per 1,000	Applications of Bifenture EC alone or in recommended tank mixtures, in conjunction with in furrow pop-up fertilizers may be used. A jar compatibility test should be performed with appropriate ratio of Bifenture EC and fertilizer to ensure mixture will stay in solution. Constant agitation should be maintained during mixing and application.					
Armyworm Species Wireworm	linear feet of row	linear feet of row	remaining.	ly to soil where ly within 30 da	-	er than 30% cov	ver of crop residue	
			Do not graz		treated area or	cut treated crop	os for feed within 30 days	
			Do not apply more than 0.1 lb. active per acre per season as an at plant application.					
Row Spacings (inches)				40	38	36	30	
Bifenture EC (lb. a.i. per ac	<del></del>			0.060	0.064	0.069	0.080	
Bifenture EC (formulated o	unces per ac	re)		3.9	4.1	4.4	5.12	

# SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (FOLIAR USE)

	DOSA			
PEST		FL OZ/A	REMARKS AND RESTRICTIONS	
Aphids Army Cutworm Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm Adults Cucumber Beetle Adult Cutworm Species European Corn Borer Fall Armyworm Flea Beetle Grasshoppers	LB AI/A 0.033-0.10		Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  To Control Ear-Attacking Pests: Apply Bifenture EC when silking begins and repeat as necessary to maintain control.  Southwestern Corn Borer, European Corn Borer: Make 2 applications for corn borer control with the initial application at or shortly before egg hatch.	
Greenbug Japanese Beetle Adult Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southwestern Corn Borer Stinkbugs Tarnished Plant Bug True Armyworm or Armyworm Species Webworms Western Bean Cutworm Yellowstriped Armyworm			For Control of Other Insect Pests: Apply when pests first appear and repeat as necessary.  For Control of Mites: Apply for Banks Grass Mites control when colonies first form from prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.  For Twospotted Spider Mite and Carmine Mite Control: Apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy.	
Banks Grass Mite Carmine Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	Higher rates will be necessary for heavier initial populations and corn under heat or drought stress.  Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated product) per acre per season.  Do not graze livestock in treated areas of cut treated crops for feed within 1 day of the last application.  Use of ultra low volume (ULV) application on corn is prohibited.  Do not make aerial or ground applications to corn if heavy rainfall is imminent.  Use of Bifenture EC on corn is prohibited in all coastal counties.  Do not apply within 1 day of harvest.	

# **CUCURBITS**

		DOSA	GE	
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Chayote (fruit) Chinese waxgourd (Chinese preserving melon) Citron melon Cucumber Gherkin Gourd, edible (includes hyloan, cucuzza), (Luffa spp.) (includes hechima, Chinese okra), (Momordica spp.) (includes balsam apple, balsam pear, bitter melon, Chinese cucumber) Muskmelon (hybrids and/or cultivars	Aphids Armyworms Cabbage Looper Corn Earworm Cucumber Beetles Cutworm Grasshopper Leafhoppers Melonworm Pickleworm Plant Bug Rindworm Squash Bugs Squash Vine Borer Stink Bugs Tobacco Budworm	0.04-0.10	2.6-6.4	Apply in a minimum of 5 gallons of finished spray per acre by air or in a minimum of 20 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil many be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  Do not apply more than 0.3 lb. a.i. (19.2 ounces formulated product) per acre per season.  Do not make more than two applications after bloom.  Do not make applications less than 7 days apart.  Do not apply within 3 days of harvest.
of Cucumis melo) (includes true cantaloupe, Cantaloupe, casaba, crenshaw melon, golden, pershaw melon, honeydew melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon) Pumpkin (Cucurbita spp.) Squash, summer (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini) Squash, winter (includes butternut squash, calabaza, hubbard squash (C. mixte; C. pepo), includes acorn squash, spaghetti squash) Watermelon (includes hybrids and	Carmine Mite Banks Grass Mite Lygus spp Twospotted Spider Mite Whitefly	0.08-0.10	5.12-6.4	

# **EGGPLANT**

	DOS	SAGE	·
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Armyworms	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre by air or in a
Colorado Potato Beetle			minimum of 10 gallons per acre with ground equipment. When applying by
Corn Earworm			air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in
Cucumber Beetle			the finished spray. Thorough coverage is essential to achieve control.
European Corn Borer		!	
Flea Beetle			Do not make applications less than 7 days apart.
Cabbage Looper			
Plant Bug			Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated product) per
Stink Bug			acre per season.
Thrips			·
Tomato Pinworm			Do not apply within 7 days of harvest.
Tomato Hornworm			
Vegetable Leafminer			
Whitefly			
Banks Grass Mite	0.08-0.10	5.12-6.4	-
Carmine Mite	0.00	5.12 0.1	
Lygus spp.			
Pacific Spider Mite			
Twospotted Spider			
Mite			

# **GRAPES**

	DOS	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Eastern Grape Leafhopper Variegated Leafhopper Western Grape Leafhopper	0.05 to 0.10	3.2 to 6.4	Apply in a minimum of 10 gallons of finished spray by air or in a minimum of 25 gallons of finished spray with ground equipment. When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray.
Black Vine Weevil Glasywinged Sharpshooter Twospotted Spider Mite	0.10	6.4	Thorough coverage is essential to achieve control.  When pest pressure is moderate to severe, use higher rate.  Do not apply more than 0.10 lb. a.i. per acre per season.  Do not apply within 30 days of harvest.

# HOPS

DOSAGE		
LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
0.06-0.1	3.8-6.4	Do not exceed 0.1 lb. a.i. per acre per application.
l		Do not exceed 0.3 lb. a.i. per acre per season.
	ĺ	
		A spray interval of 21 days between applications must be maintained.
0.05-0.1	3.2-6.4	A 14 day pre-harvest interval must be observed.
	LB AI/A 0.06-0.1	LB AI/A FL OZ/A 0.06-0.1 3.8-6.4

Twospotted spider mite	0.1	6.4	Application by ground: For best results, full coverage is essential. Early season recommend 100-150 gallons of spray per acre. Late season recommend 200-250 gallons of spray per acre.
			For Root Weevil control, make a directed spray to the base of the plant. Spray up the vine 3 feet and the soil surface 1.5 to 2 feet on either side of the plant.
			Application by air for late season control of twospotted spider mites: Apply no less than 6.4 oz (0.1 lb. a.i.) per application in a minimum of 10 gallons per acre.
			Use of ultra low volume (ULV) application on hops is prohibited.

LETTUCE, HEAD

	DOSAGE		
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.10	2.1-6.4	Apply in water as necessary for insect control using a minimum of 15
Armyworms			gallons of finished spray per acre with ground equipment and 5 gallons per
Corn Earworm			acre by air. When applying by air, 1-2 quarts of emulsified oil may be
Cucumber Beetles	]		substituted for 1-2 quarts of water in the finished spray. Thorough coverage
Cutworms			is essential to achieve control.
Diamondback Moth			
Flea Beetles			Do not make applications less than 7 days apart.
Imported			
Cabbageworm	ļ .		A maximum of 0.5 lb. a.i. may be applied per acre per season.
Leafhoppers			
Loopers			Do not apply within 7 days of harvest.
Salt Marsh Caterpillar			
Stink Bug spp.			
Tobacco Budworm			
Whitefly			
			1
Carmine Mite	0.08-0.10	5.12-6.4	
Lygus, spp.	}		
Twospotted Spider			
Mite	<u> </u>		

# **PEARS**

	DOS	AGE	
PEST	LB	FL	REMARKS AND RESTRICTIONS
	AI/A	OZ/A	
Aphids	0.04 to	2.6 to	Application by ground: Apply as a dilute (minimum of 200 gallons of finished spray per acre)
Coddling	0.2	12.8	or concentrate (minimum of 50 gallons of finished spray per acre) spray in sufficient water to
Moth			provide thorough coverage.
Cutworms			
Green			Application by air: Apply the specified dosage in a minimum of 10 gallons per acre by air.
Fruitworm			
Leafhoppers			Do not apply more than 0.5 lb. active per acre per season with no more than 0.45 lb. active per
Leafminers			acre applied after petal fall.
Leafrollers			
Lygus spp.			Apply as necessary to maintain control using a minimum of 30 day spray interval.
Plant Bugs			
Plum Curculio			Do not graze livestock in treated orchards or cut treated cover crops for feed.
San Jose			
Scale			
(Crawlers)			
Stink Bugs			

Tarnished Plant Bugs			
Twospotted	0.06 to	8.8 to	Apply up to 14 days prior to harvest.
Spider	0.2	12.8	
Mite		1	
Yellow Mite			
European Red	0.08 to	5.12 to	
Mite	0.2	12.8	

# PEPPERS, BELL AND NON-BELL

	DOSA	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Armyworms	0.033-0.1	2.1-6.4	Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply
Corn Earworm			with ground equipment using a minimum of 10 gallons of finished spray per acre or
Cucumber Beetles			a minimum of 2 gallons per acre by aircraft.
Cutworms			
European Com		}	Do not make applications less than 7 days apart.
Borer			
Flea Beetles			Do not apply more than 0.20 lb. a.i. per acre per season.
Leafminers			
Loopers			Do not apply within 7 days of harvest.
Pepper Weevil			
Thrips			
Whitefly			
Broad Mite	0.8-0.10	5.12-6.4	
Carmine Mite			
Lygus spp.			
Twospotted Spider			
Mite			

# **SPINACH**

PESTS	DOSAGE	REMARKS AND RESTRICTIONS
Armyworms Colorado Potato Beetle Corn Earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Leafminers Loopers Pepper Weevil Tomato Pinworm Thrips Whitefly	2.1 to 6.4 ounces (0.033 to 0.10 lb. active) per acre	For control of whiteflies apply foliar treatments of Bifenture EC by ground or air at rates of up to 0.4 pt. (0.1 lb. active) per acre at minimum 7-day intervals up to a maximum of 4 applications.  For control of fire ants apply Bifenture EC to the soil (at planting) or as a foliar treatment by ground or air at rates of up to 0.4 pt. (0.1 lb. active) per acre at minimum 7-day intervals up to a maximum of 4 applications.  Apply the specified dosage in 5-50 gallons of finished spray per acre by air or 10-50 gallons of finished spray per acre by ground.  Do not make applications less than 7 days apart.
Broad Mite Banks Grass Mite Carmine Mite Fire Ants Lygus spp. Twospotted Spider Mite Pacific Spider Mite	5.12 to 6.4 ounces (0.08 to 0.10 lb. active) per acre	Do not apply more than 0.4 lb. a.i. per acre per season.  Do not apply within 40 days of harvest.

# SUCCULENT PEAS AND BEANS

<u> </u>	<u> </u>	DOSAGE		
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Pea (Pisum spp.)	Flea Beetle	0.025-0.10	1.6-6.4	Apply in a minimum of 2 gallons of finished spray per acre by
Dwarf pea	Grasshoppers			air or in a minimum of 10 gallons per acre with ground
Edible-pod pea	Aster			equipment. When applying by air, 1-2 quarts of emulsified oil
English pea	Leafhopper			may be substituted for 1-2 quarts of water in the finished spray.
Garden pea	Leafhoppers			Thorough coverage is essential to achieve control.
Green pea	Alfalfa	0.033-0.10	2.1-6.4	
Snow pea	Caterpillar			Do not apply more than 0.2 lb. a.i. (12.8 ounces formulated
Sugar snap pea	Aphids			product) per acre per season.
Pigeon pea	Bean Leaf			
Bean (Phaseolus	Beetle			Do not apply within 3 days of harvest.
spp.):	Beet Armyworm	J .		
Broadbean	Cloverworm			
(succulent)	Corn Earworm	ļ		
Lima bean	Corn Rootworm			
(green)	(Adult)			
Runner bean	Cucumber			
Snap bean	Beetles			
Wax bean	Cutworms			
Bean (Vigna spp.):	European Corn			
Asparagus bean	Borer			
Blackeyed pea	Fall Armyworm			
Chinese longbean	Japanese Beetle			
Cowpeas	(Adult)			
Moth bean	Loopers	}	}	
Southern pea	Pea Leaf Weevil			
Yardlong bean	Pea Weevil			
Jackbean	Plant Bug			
Soybean	Sap Beetle			
(immature seed)	Southern			
Sword bean	Armyworm			
ŀ	Stink Bugs			
	Tarnished Plant			
	Bug			
	Thrips	1	1	
	Webworms			
	Western Bean		]	
	Cutworm	1		
	Yellowstriped			
	Armyworm			
	Whitefly	_		
	Banks Grass	0.08-0.10	5.12-6.4	
	Mite			
	Carmine Mite			
1	Lygus spp.	<b>\</b>		
	Twospotted			
	Spider Mite			

#### TOMATOES

TOMATOES				
PEST	DOSAGE	REMARKS AND RESTRICTIONS		
Aphids	2.1-5.2 fluid ounces (0.033-0.08	Apply in water as necessary for insect control		
Armyworms – Including:	lb. active) per acre	using a minimum of 15 gallons of finished spray		
Beat Armyworm, Fall		per acre with ground equipment.		
Armyworm, Southern				
Yellowstriped Armyworm		Thorough coverage is essential to achieve		
Bean Leaf Beetle		control.		
Cabbageworm				
Carmine Mite		Do not make applications less than 10 days		
Cloverworm		apart.		
Corn Earworm				
Corn Rootworm		A maximum of 4 applications may be applied		
Cucumber Beetles	•	per season.		
Cutworms				
Diamondback Moth		Do not apply within 1 day of harvest.		
European Corn Borer	1			
Flea Beetles				
Flea Hopper				
Grasshopper				
Japanese Beetle (Adult)				
Leafhoppers				
Loopers				
Lygus spp.				
Melonworm				
Pea Weevil		•		
Pea Leaf Weevil				
Pickleworm				
Plant Bug				
Rindworm	·			
Salt Marsh Caterpillar				
Sap Beetle				
Seedpod Weevil				
Squash Bugs				
Stink Bug spp.				
Tobacco Budworm				
Tarnished Plant Bug				
Thrips				
Two Spotted Spider Mite				
Whitefly				

### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of United Phosphorus, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold United Phosphorus, Inc. and Seller harmless for any claims relating to such factors. United Phosphorus, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or United Phosphorus, Inc., and Buyer and User assume the risk of any such use. UNITED PHOSPHORUS, INC. MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent allowed by law, United Phosphorus, Inc. or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF UNITED PHOSPHORUS, INC. AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF UNITED PHOSPHORUS, INC. OR SELLER, THE REPLACEMENT OF THE PRODUCT.

United Phosphorus, Inc. and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of United Phosphorus, Inc..

Ammo, Capture, Mustang – trademarks of FMC Corporation Ambush, Karate – trademarks of a Syngenta Group Company Asana – trademark of E.I. duPont de Nemours & Company Baythroid – trademark of Bayer Danitol – trademark of Sumitomo Chemical Company, Ltd. Scout Xtra – trademark of Hoechst Schering Agrevo S.A.

EPA Approved 8/25/04



# United Phosphorus, Inc.

423 Riverview Plaza Trenton, NJ 08611 (609) 392-8200 x 18 (phone) (609) 392-0808 (fax)

Rebecca A. Clemmer Regulatory Affairs Manager

September 7, 2004

Mr. George LaRocca (PM 13)
Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504C)
U.S. Environmental Protections Agency
1921 Jefferson Davis Highway
Arlington, VA 22202

Re:

Notification of New Brand Name

Bifenthrin EC Agricultural Insecticide (EPA Reg. No. 70506-57)
Bifenthrin EC-CA Agricultural Insecticide (EPA Reg. No. 70506-58)

Dear Mr. LaRocca:

United Phosphorus, Inc. would like to advise the Agency of new primary brand names for the above listed products:

Bifenture<sup>™</sup> EC Agricultural Insecticide (EPA Reg. No. 70506-57)
Bifenture<sup>™</sup> EC-CA Agricultural Insecticide (EPA Reg. No. 70506-58)

In support of this Notification, enclosed please find for each product:

- EPA Form 8570-1 for Notification for each product;
- One copy of each label, marked to show the changes (product name, throughout); these labels also incorporate the changes required in your letters dated 7/21/04 and include the correction of a number of simple typographical errors.

Please contact me if you have any questions.

Kelsecca a. Clemmer

Very truly yours,

Rebecca A. Clemmer

rclemmer@upi-usa.com

RAC-2004-074



United States

# **Environmental Protection Agency**

1435-2

Office of Pesticide Programs (7505C)
Washington, DC 20460

# Notice of Supplemental Distribution of a Registered Pesticide Product

## Instructions

After a registrant has obtained final registration for the basic product, the registrant may then supplementally distribute his/her product. One form must be submitted for each distributor product and must be signed by the distributor involved. The basic registration number and the distributor company number must be shown.

If a registrant has a potential distributor who does not have a company number assigned, she/he should have the distributor apply, on letterhead stationery, to the Registration Division to have a number assigned prior to submitting this form to the agency.

This Notice of Supplemental Distribution must be submitted by the basic registrant. The completed form must have the concurrence and signature of both the registrant and the distributor.

EPA Registration Number of Product	Distributor Company Number	
70506-57	51036	
Note: Do not submi	t distributor product labels	
Name of Registered Product (basic product name accepted by EPA)  Bjenthrin EC Agricultural Insecticide	Distributor Product Name Bifenthrin 2EC AG	
Name and Address of Distributor (Type; include ZIP code)		•••••
Micro Flo Company LLC 530 Oak Court Drive, Suite 100 Memphis, TN 38117		
Read All Conditions	Before Signing	
the registered basic product.  3. The labeling for the distributor product must bear the specific claims may be deleted if by doing so, no other.  4. The product must remain in the manufacturer's unbroken.  5. The label must bear the EPA registration number of the company number.  6. Distributor product labels must bear the name and addror", "distributed by"; or "sold by" to show that all conditions of the basic registration apply equally to registrant to see that all distributor labeling is kept in conditions.	r changes to the label are ne ken container. he basic product, followed by dress of the distributor qualif to the name is not that of the podistributor products. It is to	ied by such terms as "packed manufacturer. the responsibility of the basic
Distrit		
We intend to market our product under the Distributor Product Name sp	ecified above, subject to the condit	ions specified on this Notice.
Signature and Title of Distributor  Nancy R. Rober Manager of Registr	ations	6/24/04
Regi	strant	
I agree that the distributor-named above may distribute and sell the Dis. Notice.	tributor Product specified above, su	bject to the conditions specified on this

EPA Form 8570-5 (Rev. 8-94) Previous editions are obsolete.

Signature and Title of Registran

White - EPA

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# United Phosphorus, Inc.

423 Riverview Plaza Trenton, NJ 08611 (609) 392-8200 x 18 (phone) (609) 392-0808 (fax) Rebecca A. Clemmer Regulatory Affairs Manager

August 11, 2004

Mr. George LaRocca (PM 13)
Document Processing Desk
Office of Pesticide Programs (7504C)
U.S. Environmental Protections Agency
Ariel Rios Building
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

Re:

Request for DER

Bifenthrin EC Agricultural Insecticide (EPA Reg. No. 70506-LI)

Dear Mr. LaRocca:

In your letter dated July 21, 2004 regarding this product's application for registration, you indicated that the eye irritation study UPI submitted (MRID 46183601) had been reviewed and the product classified as Toxicity Category II.

UPI requests a copy of the DER for the study, for our files.

Please contact me if you have any questions.

Very truly yours,

Rebecca A. Clemmer rclemmer@upi-usa.com

RAC-2004-071

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U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs Registration Division (7505C) 1200 Pennsylvania Avenue, N.W. Washington, D.C. 20004

NOTICE OF PESTICIDE:

x Registration
Reregistration

(under FIFRA, as amended)

EPA Reg. Number:

Date of Issuance:

70506-57

AUG 2 5 2004

Term of Issuance:

Conditional until November 15, 2004

Name of Pesticide Product:

Bifenthrin EC Agricultural Insecticide

Name and Address of Registrant (include ZIP Code):

United Phosphorous, Inc. 423 Riverview Plaza Trenton, NJ 08611

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) since you have agreed to:

- 1. Submit and/or cite all data required for registration/ reregistration of your product when the Agency requires all registrants of similar products to submit data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.
- 2. You understand that this registration will expire on November 15, 2004. You further understand that it is EPA's stated intent to, by November 15, 2004, complete review of all relevant data and other information that are available to the Agency, and to make FIFRA section 3 (c)(5) or other appropriate regulatory decisions for cotton-use synthetic pyrethroids and other crops conditionally registered based on the Agency's review of such data/information and considering statutory and regulatory criteria for such decisions.

Signature of Approving Official:	Date:

EPA Form 8570-6

page 2 EPA Reg. No. 70506-57

3. You have agreed to submit/cite the data listed below, conducted in accordance with the 40CFR Part 158 Test Guidelines.

Title of Study Guideline Date Due Reference No.

Developmental Neurotoxicity

870.6300

May 1, 2005

- 4. Make the labeling changes listed below before you release the product for shipment:
  - a. Add the phase "EPA Registration No.70506-57.
- 5. You will submit product information (pounds or gallons produced) for this product for the fiscal year in which the added uses are conditionally registered, in accordance with FIFRA section 29. The fiscal year begins October 1 and ends September 30. The production information will be submitted to the Agency no later than November 15 following the end of the preceding fiscal year.

The information should be submitted to:

U.S. Environment Protection Agency Office of Pesticide Program (7504C) Document Processing Desk Ariel Rios Building 1200 Pennsylvania Avenue, NW Washington, DC 20460

6. Submit two (2) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Enclosure

#### RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

## BIFENTHRIN EC AGRICULTURAL INSECTICIDE

# BIFENTHRIN EC AGRICULTURAL INSECTICIDE IS NOT FOR SALE OR USE IN CALIFORNIA

This product contains 2 pounds active ingredient per gallon.

# KEEP OUT OF REACH OF CHILDREN WARNING AVISO

This label must be in the possession of the user at the time of application.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID		
If swallowed	Call poison control center or doctor immediately for treatment advice.	
	• Do not induce vomiting unless told to do so by the poison control center or doctor.	
•	Do not give any liquid to the person.	
	Do not give anything by mouth to an unconscious person.	
If in eyes	Hold eye open and rinse slowly and gently with water for 15-20 minutes.	
	• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.	
	Call a poison control center or doctor for treatment advice.	
If inhaled	Move person to fresh air.	
	• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably	
	by mouth-to-mouth, if possible.	
	Call a poison control center or doctor for further treatment advice.	
If on skin or	Take off contaminated clothing.	
clothing	Rinse skin immediately with plenty of water for 15-20 minutes.	
,	Call a poison control center or doctor for treatment advice.	

NOTE TO PHYSICIAN

This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE, CALL THE NATIONAL PESTICIDE INFORMATION CENTER 1-800-858-7378.

ACCEPTED

with COMMENTS

in EPA Letter Dated

AMIC 2 5 200

Under the Federal Insesticide. Fungicide, and Rodenticide Act

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.



registered under EPA Reg. No. 70506-57

Manufactured for:
United Phosphorus, Inc.
423 Riverview Plaza • Trenton, NJ 08611
1-800-247-1557 • www.upi-usa.com

EFA Reg. No. 70506-57 EPA Est. No. Net Contents:

<sup>\*</sup>Cis isomers 97% minimum, trans isomers 3% maximum.

<sup>\*\*</sup>Contain xylene range aromatic solvents

### PRECAUTIONARY STATEMENTS

# Hazards to Humans and Domestic Animals --- Warning

WARNING. May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield or safety glasses). Harmful if absorbed through skin or inhaled. Avoid breathing spray mist. Avoid contact with skin.Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

### Personal Protective Equipment:

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions or category E on an EPA chemical resistance category selection chart.

### Handlers who may be exposed to the dilute through application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, or Nitrile rubber or neoprene rubber or Viton.
- Shoes plus socks

### Handlers who may be exposed to the concentrate through mixing, loading, application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber, or Viton.
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### **Environmental Hazards**

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

### Physical/Chemical Hazards

Do not use or store near heat or open flame.

## DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**Resistance:** Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

Bifenthrin EC Agricultural Insecticide MASTER LABEL

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions; a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control in your area.

#### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls.
- Chemical-resistant gloves, such as Barrier Laminate or Nitrile Rubber or Neoprene Rubber or Viton.
- Shoes plus socks.

#### STORAGE AND DISPOSAL

**Pesticide Storage:** Do not freeze. Do not store below 40°F. If crystals are observed, warm material to above 60°F by placing in warm location. Shake or roll container periodically to redissolve solids.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.

To Confine Spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Container Disposal: Metal or Plastic Container: Triple rinse (or equivalent), then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

Returnable, Refillable Containers: Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

#### **Chemigation Use Directions**

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

For LEPA irrigation a minimum of 0.75 inch of water per acre is recommended. Where non-emulsified oils are used as the diluent, 1 to 2 pints per acre is recommended.

Results from utilizing chemigation have been variable and depend upon the set up and calibration of equipment. Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. Contact your State Agricultural Extension Service specialists, equipment manufacturers or other experts for consultation on the suitability of the equipment set up to obtain effective control of the target insect pests.

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease application during a mechanical stoppage may result in undesirable residues to adjacent areas.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Bifenthrin EC Agricultural Insecticide should be applied continuously for the duration of the water application. Bifenthrin EC Agricultural Insecticide should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation, a minimum of 0.5 inch per acre of irrigation water is recommended. Agitation generally is not required when a suitable diluent is used. A diluent test should be conducted to ensure that phase separation will not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

#### **Spray Drift Precautions**

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMANENT STREAMS; MARSHES OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.

Do not apply by ground equipment within 25 feet, or by air within 150 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds. Increase the buffer zone to 450 feet when ultra low volume (ULV) application is made in cotton. Use of ultra low volume (ULV) application on corn and hops is prohibited.

For aerial applications, the spray boom should be mounted on the aircraft so as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of wing span or rotor diameter.

Use the largest droplet size consistent with good pest control. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.

Spray should be released at the lowest height consistent with pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided.

Make aerial or ground applications when the wind velocity favors on target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid applications when wind gusts approach 15 mph.

Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

Do not cultivate within 10 feet of the aquatic areas so as to allow growth of a vegetative filter strip.

Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift to aquatic areas. Avoid spraying during conditions of low humidity and/or high temperature.

Do not make aerial or ground applications during temperature inversions. Do not make aerial or ground applications to corn if heavy rainfall is imminent. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

#### **Rotational Crops**

Crops for which bifenthrin tolerances exist may be rotated at any time. All other crops may be rotated 30 days after the last application.

#### Tank-Mixture

Bifenthrin EC Agricultural Insecticide may be applied in tank mixtures with other products approved for use on registered crops.

Observe all restrictions and precautions which appear on the labels of these products. Test for compatibility of products before mixing.

#### **Application Instructions**

Rate of application is variable according to pest pressure, timing of sprays, and field scouting. Use lower rates under light to moderate infestations; higher rates under heavy insect pressure and for mite control. Arid climates generally require higher rates.

Cultivation within 10 feet of a water body is prohibited to allow for the growth of a vegetated filter strip.

In New York State this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

#### INDEX TO CROPS LISTED ON THIS LABEL

Artichoke

Brassicas

Caneberries

Canola, Crambe, Rapeseed

Citrus

Cotton

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (At Plant Use)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (PRE & PPI)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (Foliar Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (At Plant Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (Foliar Use)

Cucurbits

Eggplant

Grapes

Hops

Lettuce, Head

Pears

Peppers, Bell and Non-Bell

Spinach

Succulent Peas and Beans

Tomatoes

# ARTICHOKE

	DOS	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Cribrate Weevil Artichoke Plume Moth	0.10	6.4	Apply when pest population reaches damaging threshold and repeat as necessary to maintain control, but not more often than 15 day intervals.
			Application by ground: Apply a full cover spray in a minimum of 75 gallons of finished spray per acre.
			Application by air: Apply specified dosage in a minimum of 10 gallons per acre.
·			Do not exceed 0.5 lb. Al/A per season.
			A 5-day preharvest interval must be observed.

# BRASSICAS

		DOSA	GE	·
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Head and Stem	Cutworms	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre
Brassica	Corn Earworm			by air or in a minimum of 10 gallons per acre with ground
Vegetables	Tobacco			equipment. When applying by air, 1-2 quarts of emulsified
including:	Budworm			oil may be substituted for 1-2 quarts of water in the finished
Broccoli	Saltmarsh			spray. Thorough coverage is essential to achieve control.
Chinese Broccoli	Caterpillar		•	·
(gai lon, white	Leafhoppers	. 1		Do not apply more than 0.5 lb active ingredient (1 quart) per
flowering	Flea Beetles			acre per season.
broccoli)	Imported			
Brussels Sprouts	Cabbageworm			Do not make more than 5 applications after bloom.
Cauliflower	Cucumber			
Cavalo Broccolo	Beetles			Do not make applications less than 7 days apart.
Kohlrabi	Aphids		•	
Cabbage	Whitefly			Do not apply within 7 days of harvest.
Chinese Cabbage	Armyworms			
(napa)	Loopers			
Chinese Mustard	Stink Bugs			
Cabbage (gai	Crickets			
choy)	Ground Beetles			
	Thrips			
	Wireworm			
	(Adults)			
	Diamondback			
	Moth			
	Banks Grass	0.08-0.10	5.12-6.4	
	Mite .			
	Twospotted			
	Spider Mite			
	Pacific Spider			
	Mite			
	Carmine Mite			
	Lygus spp.			

#### CANEBERRIES

3.2-6.4	REMARKS AND RESTRICTIONS  Apply by air or ground equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons per acre by air and 50 gallons per acre by ground).
3.2-6.4	obtain full coverage of foliage (minimum of 10 gallons per
	1
	acre by air and 50 gallons per acre by ground).
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i	
	One application may be made pre-bloom and a second
	application may be made post bloom.
	Do not exceed 0.2 lb. AI/A per season.
	Do not apply within 3 days of harvest.
6.4	*
_	6.4

# CANOLA, CRAMBE, RAPESEED

	DO	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.04	2.1-2.6	Apply in a minimum of 2 gallons of finished spray per acre by air or in a
Cutworms			minimum of 10 gallons per acre with ground equipment. When applying
Diamondback			by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of
Moth			water in the finished spray. Thorough coverage is essential to achieve
Loopers			control.
Other			
Lepidopterous			Do not apply more than 0.08 lb active ingredient (5.12 ounces formulated
Larvae			product) per acre per season. Do not make applications less than 14 days
Flea Beetle			apart.
Flea Hopper			
Grasshopper			Do not apply within 35 days of harvest.
Plant Bug			
Stink Bugs			
Scedpod Weevil			
Thrips			
Whitefly			
Armyworms			

PEST	DOSAGE	REMARKS AND RESTRICTIONS
Diaprepes Root Weevil (Diaprepes	16-32 ounces (0.25-0.50 pound active) per acre	Apply to individual citrus resets, when not in solid planted rows, using hand-gun or shielded sprayer.
abbreviatus) Fire Ants Asian Cockroach		Peak emergence of Diaprepes root weevil generally occurs in the spring. Depending on weather conditions, a minor emergence of Diaprepes root weevil may also occur in the fall.
		If the citrus grove to be treated is in an area where weather conditions are conducive to primary emergence occurring in the spring, 32 fluid ounces formulated product should be used to obtain the longest residual management of Diaprepes root weevil.
		If the citrus grove to be treated is in an area where weather conditions will promote more than one peak of pest emergence, 16 fluid ounces formulated product can be applied early season and 16 fluid ounces formulated product can be applied later in the season.
·		If emergence extends beyond the residual protection of Bifenthrin EC, grower is advised to use additional management strategies (i.e. foliar adult control or soil larvae control such as nematodes). Contact your state agricultural Extension Specialist as to the recommendation suited for local conditions.
		Do not apply through irrigation systems.
		Do not allow any application of Bifenthrin EC to contact fruit or foliage.
		Do not apply more than a total of 32 fluid ounces of formulated product (0.5 lb. a.i.) per acre per year.
		Apply the specified dosage in a minimum of 30 gallons of finished spray per acre.
		Ground application only. Do not apply by air.
		Do not apply within 1 day of harvest.

#### COTTON

·	DOS	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
European Corn Borer	0.02-0.10	1.3-6.4	Bifenthrin EC may be applied in water or refined
Soybean (Banded) Thrips		;	vegetable oil (soybean/cottonseed).
Tobacco Thrips			
			Application in Water: Apply in a minimum of 5
			gallons per acre with ground equipment or 1 gallon
			per acre by aircraft. When applying by air, I quart of
			emulsified oil may be substituted for one quart of
			water in the finished spray.
Boll Weevil	0.04-0.10	2.6-6.4	- i
Bollworm	0.0 : 0.10	2.0 0.1	ULV Application: Apply the recommended rate of
Cabbage Looper			Bifenthrin EC in refined vegetable oil in a minimum
Cotton Aphid			of 1 quart of finished spray per acre with aircraft
Cotton Fleahopper			calibrated to give adequate coverage.
Cotton Leafperforator			
Cutworms			To Control Boll Weevil: Apply Bifenthrin EC at an
Fall Armyworm			interval of 3 to 4 days until pest numbers are reduced
Plant Bugs			to acceptable levels.
Saltmarsh Caterpillar			
Southern Garden Leafhopper			To Control Mites and Aphids: Apply when pests
Stink Bugs			first appear. Repeat as necessary to maintain control.
Tobacco Budworm			Higher rates will be required once a damaging
Whitefly		ŀ	threshold is established.
Yellow Striped Armyworm			
Beet Armyworm	0.06-0.10	3.8-6.4	Do not apply more than 0.5 pound active ingredient
Carmine Spider Mite			per acre per season.
Lygus spp.			
Pink Bollworm			Do not make more than 10 synthetic pyrethroid
Twospotted Spider Mite			applications (of one product or combination of
			products) to a cotton crop in one growing season.  Synthetic pyrethroid products include Ambush <sup>®</sup> ,
•			Ammo <sup>®</sup> , Asana <sup>®</sup> XL, Baythroid <sup>®</sup> , Capture <sup>®</sup> ,
			Danitol <sup>®</sup> , Karate <sup>®</sup> , Mustang <sup>®</sup> , and Scout X-TRA <sup>®</sup> .
			Dunto, Tradic , Trading , and book A Tra
			Do not graze livestock in treated areas or cut treated
			crops for feed.
			Do not apply within 14 days of harvest.

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (AT PLANT USE)

PEST	DOS	AGE		···RE	MARKS AND	RESTRICTIO	ONS
Corn Rootworm, Larvae Northern Southern Western	0.0046 lb AI per 1,000 linear feet of row	0.30 fluid ounces per 1,000 linear feet of row	Apply as a 5 to 7 inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe, in front of the press wheel centered over the row. Use the table below to determine the Bifenthrin EC needs per acre. Apply in a minimum of 3 gallons of finished spray per acre.  Mix Bifenthrin EC with water or fertilizer in the following manner. Fill the spray tank approximately one-half full with water or liquid fertilizer, add the proper amount of Bifenthrin EC then add the rest of the water or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture.				
Army Cutworm Cutworm Species Grubs Seed Corn Beetle Seed Corn Maggot True Armyworm or Armyworm Species Wireworm	0.0023 to 0.0046 lb AI per 1,000 linear feet of row	0.15 to 0.30 fluid ounces per 1,000 linear feet of row	Applications of Bifenthrin EC alone or in recommended tank mixtures, in conjunction with in furrow pop-up fertilizers may be used. A jar compatibilitiest should be performed with appropriate ratio of Bifenthrin EC and fertilizer ensure mixture will stay in solution. Constant agitation should be maintained during mixing and application.				ed. A jar compatibility thrin EC and fertilizer to should be maintained
			of treatment Do not app application	it. ly more than 0	.1 pound active	•	s for feed within 30 days . ason as an at plant
Row Spacings (inches)			, – сс. црр	40	38	36	30
	Insecticide (r	ounds ai ne	er acre)	0.060	0.064	0.069	0.080
Bifenthrin EC Agricultural Insecticide (pounds ai per acre)  Bifenthrin EC Agricultural Insecticide (formulated product, ounces per acre)				3.9	4.1	4.4	5.12

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (PRE & PPI)

PEST	DOS	AGE	REMARKS AND RESTRICTIONS
Black Cutworm	0.047 to	3 to 4 fl.	The 3-4 oz./A rate must be applied as PPI and can be tankmixed and
White Grub	-0.062 pound	oz./A Pre-	applied with PPI herbicides. Incorporation of Bifenthrin EC should not be
Wireworm	AI/A Pre-	Plant	any deeper than the intended planting depth and no deeper than 3 inches.
Seedcom Maggot	Plant	Incorporated	Incorporation depth should be close to the intended seed planting depth.
Armyworm spp.	Incorporated	(PPI)	
Stalkborer	(PPI)	:	
Black Cutworm	0.040 LB	2.56 FL.	The 2.56 oz/A rate may be applied PRE and can be tankmixed and applied
Armyworm spp.	AI/A Pre-	OZ./A Pre-	with PRE herbicides.
Stalkborer	emergence	emergence	, ,
	(PRE)	(PRE)	

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (FOLIAR USE)

	DOSA	GE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.10	2.1-6.4	Apply in a minimum of 2-5 gallons of finished spray per acre by
Army Cutworm			aircraft or in a minimum of 10 gallons per acre with ground
Beet Armyworm			equipment. To improve control by aircraft, use 5 gallons of
Cereal Leaf Beetle			finished spray per acre particularly when initial populations are
Chinch Bug			heavier than normal. When applying by air, 1-2 quarts of
Common Stalk Borer		1	emulsified oil may be substituted for 1-2 quarts of water in the
Corn Earworm		1	finished spray. Thorough coverage is essential to achieve control.
Corn Rootworm Adults	*		·
Cucumber Beetle Adult			To Control Ear-Attacking Pests: Apply Bifenthrin EC just
Cutworm Species			before silking and repeat as necessary to maintain control.
European Corn Borer			
Fall Armyworm			Southwestern Corn Borer, European Corn Borer: Make
Flea Beetle			application for corn borer control with initial application at or
Grasshoppers			shortly before egg hatch.
Greenbug			
Japanese Beetle Adult			For Control of Other Insect Pests: Apply when pests first
Sap Beetle	•		appear and repeat as necessary.
Southern Armyworm			*
Southern Corn Leaf Beetle			For Control of Mites: Apply for Banks Grass Mite control when
Southwestern Corn Borer			colonies first form prior to leaf damage or discoloration and before
Stinkbugs			dispersal above the bottom third of the plant.
Tarnished Plant Bug			
True Armyworm or			For Twospotted Spider Mite and Carmine Mite Control: Apply
Armyworm			when colonies first form prior to leaf damage or discoloration and
Species			before wide-spread mite dispersal throughout the canopy.
Webworms			
Western Bean Cutworm			Higher rates will be necessary for heavier initial populations and
Yellowstriped Armyworm			corn under heat or drought stress. Field experience with
			dimethoate at 0.5 lb active per acre in tank mixture has
			demonstrated good control under these conditions.
Banks Grass Mite	0.08-0.10	5.12-6.4	For Mite Control in Texas, New Mexico, Oklahoma, and
Carmine Mite	0.00	0.12 0.1	Arizona: Apply in a minimum of 5 gallons of finished spray per
Twospotted Spider Mite			acre by aircraft or in a minimum of 10 gallons per acre with
i wosponed opider water		}	ground equipment.
			ground oquipment
			Do not apply more than 0.3 pound active per acre per season
			including pre & ppi, at plant plus foliar applications.
		1	S Pro - FF - F - F - F - F - F - F - F - F -
			Do not graze livestock in treated areas or cut treated crops for feed
			within 30 days of the last application.
			Use of ultra low volume (ULV) application on corn is prohibited.
		1	Do not make aerial or ground applications to corn if heavy rainfall
		1	is imminent.
			Use of Bifenthrin EC Agricultural Insecticide on corn is prohibited
			in all coastal counties.
<u> </u>			
			Do not apply within 30 days of harvest.

# SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (AT PLANT USE)

	DOSAGE			KE	MAKINS AIND	RESTRICTION	פחול	
Com Rootworm, Larvae	0.0046	0.30	Apply as a	5 to 7 inch T-b	and treatment of	over an open se	ed furrow. Position the	
Northern	pound	fluid	spray nozzl	e behind the pl	anter shoe, in f	ront of the pres	s wheel centered over the	
Southern	active	ounces	row. Use the table below to determine the Bifenthrin EC needs per acre. Apply					
Western	per	per	in a minimi	ım of 3 gallons	of finished sp	ray per acre.		
	1,000	1,000	. `					
	linear	linear	Mix Bifentl	hrin EC with w	ater or fertilize	r in the followi	ng manner. Fill the spray	
	feet of	feet of	tank approx	kimately one-h	alf full with wa	ter or liquid fer	tilizer, add the proper	
	row	row	amount of l	Bifenthrin EC t	hen add the res	st of the water o	or fertilizer. Provide	
		}	sufficient a	gitation during	mixing and ap	plication to mai	intain a uniform spray	
			mixture.					
Army Cutworm	0.0023	0.15 to						
Cutworm Species	to	0.30	Applications of Bifenthrin EC alone or in recommended tank mixtures, in					
Grubs	0.0046	fluid	conjunction with in furrow pop-up fertilizers may be used. A jar compatibility				ed. A jar compatibility	
Seed Corn Beetle	pound	ounces	test should be performed with appropriate ratio of Bifenthrin EC and fertilizer to					
Seed Corn Maggot	active	per	ensure mix	ture will stay ir	solution. Cor	stant agitation	should be maintained	
True Armyworm or	per	1,000	during mixing and application.					
Armyworm Species	1,000	linear						
Wireworm	linear	feet of	Do not app	ly to soil where	there is greate	er than 30% cov	er of crop residue	
	feet of	row	remaining.					
	row							
			Do not app	ly within 30 da	ys of harvest.			
			1 -		treated area or	cut treated crop	s for feed within 30 days	
•			of treatmen	ıt.				
			Do not ann	lu mara than ()	1 nound active		ason as an at plant	
			application	-	i pound active	per acre per se	ason as an at piant	
Row Spacings (inches	<u> </u>	L	application	40	38	36	30	
Bifenthrin EC (pounds ai pe	er acre)			0.060	0.064	0.069	0.080	
Bifenthrin EC (formulated o		050)		3.9	4.1	4.4	5.12	

# **PEARS**

	DOS	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.04 to 0.2	2.6 to 12.8	Application by ground: Apply as a dilute (minimum of 200 gallons of finished
Coddling Moth	`		spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre)
Cutworms			spray in sufficient water to provide thorough coverage.
Green			
Fruitworm			Application by air: Apply the specified dosage in a minimum of 10 gallons per
Leafhoppers			acre by air.
Leafminers			
Leafrollers			Do not apply more than 0.5 pound active per acre per season with no more than
Lygus spp.			0.45 pound active per acre applied after petal fall.
Plant Bugs			ſ
Plum Curculio			Apply as necessary to maintain control using a minimum of 30 day spray
San Jose			interval.
Scale (Crawlers)			•
Stink Bugs			Do not graze livestock in treated orchards or cut treated cover crops for feed.
Tarnished			
Plant Bugs			
Twospotted Spider	0.06 to 0.2	8.8 to 12.8	Apply up to 14 days prior to harvest.
Mite	,		
Yellow Mite			·
European Red Mite	0:08 to 0.2	5.12 to 12.8	

# PEPPERS, BELL AND NON-BELL

	DOSA	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Armyworms	0.033-0.1	2.1-6.4	Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply
Corn Earworm			with ground equipment using a minimum of 10 gallons of finished spray per acre or
Cucumber Beetles			a minimum of 2 gallons per acre by aircraft.
Cutworms			·
European Corn			Do not make applications less than 7 days apart.
Borer			
Flea Beetles			Do not apply more than 0.20 pound active ingredient per acre per season.
Leafminers			
Loopers			Do not apply within 7 days of harvest.
Pepper Weevil			•
Thrips			
Whitefly			·
Lygus spp.	0.8-0.10	5.12-6.4	
Broad Mite	-	1	
Carmine Mite			
Twospotted Spider		1	
Mite			

# SPINACH

PESTS	DOSAGE	REMARKS AND RESTRICTIONS
Colorado Potato Beetle	2.1 to 6.4 ounces (0.033 to	For control of whiteflies apply foliar treatments of Bifenthrin EC by
Tomato Pinworm	0.10 pound active) per acre	ground or air at rates of up to 0.4 pt. (0.1 lb active) per acre at minimum
Tomato Hornworm		7-day intervals up to a maximum of 4 applications.
Armyworms		
Corn Earworm		For control of fire ants apply Bifenthrin EC to the soil (at planting) or as a
Cucumber Beetles .		foliar treatment by ground or air at rates of up to 0.4 pt. (0.1 lb active) per
Cutworms		acre at minimum 7-day intervals up to a maximum of 4 applications.
European Corn Borer		·
Flea Beetles		Apply the specified dosage in 5-50 gallons of finished spray per acre by
Leafminers		air or 10-50 gallons of finished spray per acre by ground.
Loopers		
Pepper Weevil		Do not make applications less than 7 days apart.
Thrips	i i	
Whitefly		
Broad Mite	5.12 to 6.4 ounces (0.08 to	Do not apply more than 0.4 pounds active ingredient per acre per season.
Banks Grass Mite	0.10 pound active) per acre	
Twospotted Spider Mite		Do not apply within 40 days of harvest.
Carmine Mite		
Pacific Spider Mite	·	
Lygus spp.		
Fire Ants		

#### SUCCULENT PEAS AND BEANS

		DOS	AGE	
CROP	PEST	LB AI/A FL OZ/A		REMARKS AND RESTRICTIONS
Pea (Pisum spp.)	Flea Beetle	0.025-0.10	1.6-6.4	Apply in a minimum of 2 gallons of finished spray per acre by
Dwarf pea	Grasshoppers			air or in a minimum of 10 gallons per acre with ground
Edible-pod pea	Aster			equipment. When applying by air, 1-2 quarts of emulsified oil
English pea	Leafhopper			may be substituted for 1-2 quarts of water in the finished spray.
Garden pea	Leafhoppers		i	Thorough coverage is essential to achieve control.
Green pea	Aphids	0.033-0.10	2.1-6.4	-
Snow pea	Beet-Armyworm			Do not apply more than 0.2 lb active ingredient (12.8 ounces
Sugar snap pea	Fall Armyworm			formulated product) per acre per season.
Pigeon pea	Southern			
Bean (Phaseolus	Armyworm		İ	Do not apply within 3 days of harvest
spp.):	Yellowstriped			
Broadbean	Armyworm			
(succulent)	Bean Leaf			
Lima bean	Beetle			
(green)	Cucumber			
Runner bean	Beetles			
Snap bean	Japanese Beetle		1	
Wax bean	(Adult)			
Bean (Vigna spp.):	Sap Beetle			
Asparagus bean	Plant Bug		1	· ·
Blackeyed pea	Stink Bugs		}	
Chinese longbean	Tarnished Plant		l	
Cowpeas	Bug		1	
Moth bean	Alfalfa			
Southern pea	Caterpillar			
Yardlong bean	Cloverworm	}		
Jackbean	European Corn		1	1
Soybean	Borer			
(immature seed)	Cutworms			
Sword bean	Western Bean			
•	Cutworm			
	Corn Earworm			
	Loopers			
	Corn Rootworm			
	(Adult)			
	Thrips			
	Webworms			
	Pea Weevil			
	Pea Leaf Weevil			
	Whitefly	0.00 0 1 1		-  ^ .
	Banks Grass	0.08-0.10	5.12-6.4	
	Mite			
	Twospotted			
	Spider Mite			
	Carmine Mite		1	
	Lygus spp.		1.	

#### TOMATOES

	TOMATOES	
PEST	DOSAGE	REMARKS AND RESTRICTIONS
Aphids	2.1-5.2 fluid ounces (0.033-0.08	Apply in water as necessary for insect control
Armyworms – Including:	pound active) per acre	using a minimum of 15 gallons of finished spray
Beat Armyworm, Fall		per acre with ground equipment.
Armyworm, Southern		
Yellowstriped Armyworm		Thorough coverage is essential to achieve
Bean Leaf Beetle		control.
Cabbageworm		
Carmine Mite		Do not make applications less than 10 days
Cloverworm		apart.
Corn Earworm		
Corn Rootworm		A maximum of 4 applications may be applied
Cucumber Beetles		per season.
Cutworms		
Diamondback Moth		Do not apply within 1 day of harvest.
European Corn Borer	·	
Flea Beetles		
Flea Hopper		
Grasshopper		
Japanese Beetle (Adult)		·
Leafhoppers	i	
Loopers		
Lygus spp.		
Melonworm		
Pea Weevil		
Pea Leaf Weevil		•
Pickleworm		
Plant Bug		
Rindworm		·
Salt Marsh Caterpillar		
Sap Beetle		·
Seedpod Weevil		
Squash Bugs		
Stink Bug spp.		
Tobacco Budworm		
Tarnished Plant Bug		
Thrips		
Two Spotted Spider Mite		
Whitefly		

#### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of United Phosphorus, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold United Phosphorus and Seller harmless for any claims relating to such factors. United Phosphorus warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or United Phosphorus, and Buyer and User assume the risk of any such use. UNITED PHOSPHORUS MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent allowed by law, United Phosphorus or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF UNITED PHOSPHORUS AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF UNITED PHOSPHORUS OR SELLER, THE REPLACEMENT OF THE PRODUCT.

United Phosphorus and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of United Phosphorus.

Ammo, Capture, Mustang – trademarks of FMC Corporation Ambush, Karate – trademarks of a Syngenta Group Company. Asana – trademark of E.I. duPont de Nemours & Company Baythroid – trademark of Bayer Danitol – trademark of Sumitomo Chemical Company, Ltd. Scout Xtra – trademark of Hoechst Schering Agrevo S.A.

DRAFT 7/26/2004

#### SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (FOLIAR USE)

	DOSA	GE			
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS		
Aphids	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per		
Army Cutworm		(	acre by air or in a minimum of 10 gallons per acre with		
Beet Armyworm			ground equipment. When applying by air, 1-2 quarts of		
Cereal Leaf Beetle			emulsified oil may be substituted for 1-2 quarts of water		
Chinch Bug		•	in the finished spray. Thorough coverage is essential to		
Common Stalk Borer	•	1	achieve control.		
Corn Earworm					
Corn Rootworm Adults		1	To Control Ear-Attacking Pests: Apply Bifenthrin EC		
Cucumber Beetle Adult			when silking begins and repeat as necessary to maintain		
Cutworm Species			control.		
European Corn Borer					
Fall Armyworm		}	Southwestern Corn Borer, European Corn Borer:		
Flea Beetle			Make 2 applications for corn borer control with the initial		
Grasshoppers			application at or shortly before egg hatch.		
Greenbug			apparent in a series and a seri		
Japanese Beetle Adult			For Control of Other Insect Pests: Apply when pests		
Sap Beetle			first appear and repeat as necessary.		
Southern Armyworm			mot appear and repeat as necessary.		
Southern Corn Leaf Beetle			For Control of Mites: Apply for Banks Grass Mites		
Southwestern Corn Borer			control when colonies first form from prior to leaf		
Stinkbugs			damage or discoloration and before dispersal above the		
Tarnished Plant Bug			bottom third of the plant.		
True Armyworm or Armyworm Species		1	bottom time of the plant.		
Webworms		ľ	For Twospotted Spider Mite and Carmine Mite Control:		
Western Bean Cutworm			Apply when colonies first form prior to leaf damage or		
Yellowstriped Armyworm			discoloration and before widespread mite dispersal		
Tenowstriped Army worm			throughout the canopy.		
			unoughout the canopy.		
Banks Grass Mite	0.08-0.10	5.12-6.4	Higher rates will be necessary for heavier initial		
Carmine Mite	0.08-0.10	3.12-0.4	populations and corn under heat or drought stress.		
Twospotted Spider Mite			populations and com under heat of drought stress.		
I wospotted Spider write			Do not make more than 0.2 pounds active ingredient		
			(12.8 ounces formulated product) per acre per season.		
			(12.8 ounces formulated product) per acre per season.		
			De not arous linestack in tricted arous of must mared and		
			Do not graze livestock in treated areas of cut treated crops		
	-	İ	for feed within 1 day of the last application.		
			Has of ultra law volume (III V) and live in		
			Use of ultra low volume (ULV) application on corn is		
			prohibited.		
•					
			Do not make aerial or ground applications to corn of		
			heavy rainfall is imminent.		
			TI (D)( )   TO		
			Use of Bifenthrin EC on corn is prohibited in all coastal		
			counties.		
		1	Do not apply within 1 day of harvest.		

### CUCURBITS

	<u> </u>	DOSA	GE.	
CROP	PEST	LB AI/A	FL	REMARKS AND RESTRICTIONS
CROI	I ESI	LDADA		. REMARKS AND RESTRICTIONS
Chayote (fruit) Chinese waxgourd (Chinese preserving melon) Citron melon Cucumber Gherkin Gourd, edible (includes hyloan, cucuzza), (Luffa spp.) (includes hechima, Chinese okra), (Momordica spp.) (includes	Aphids Cutworm Cabbage Looper Leafhoppers Cucumber Beeties Squash Bugs Melonworm Pickleworm Plant Bug Stink Bugs Rindworm Squash Vine Borer Armyworms Corn Earworm	0.04-0.10	OZ/A 2.6-6.4	Apply in a minimum of 5 gallons of finished spray per acre by air or in a minimum of 20 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil many be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  Do not apply more than 0.3 lb active ingredient (19.2 ounces formulated product) per acre per season.  Do not make more than two applications after bloom.
balsam apple,	Tobacco Budworm			Do not make applications less than 7 days apart.
balsam pear, bitter melon, Chinese ' cucumber) Muskmelon (hybrids and/or cultivars	Grasshopper			Do not apply within 3 days of harvest.
of Cucumis melo)				
(includes		0.08-0.10	5.12-6.4	
true cantaloupe, cantaloupe casaba, crenshaw	Whitefly Banks Grass Mite Twospotted Spider			
melon, golden,	Mite			
pershaw melon,	Carmine Mite			
honeydew melon, honey balls, mango melon, Persian melon, pineapple	Lygus spp.			
melon, Santa Claus melon, and snake melon)				
Pumpkin (Cucurbita spp.) Squash, summer (includes crookneck	·			
squash, scallop squash, straightneck squash, vegetable marrow, zucchini)				
Squash, winter (includes butternut				
squash, calabaza, hubbard squash (C. mixte; C. pepo),	·			
includes acorn squash, spaghetti squash)				
Watermelon, (includes hybrids and or varieties of Circullis				
spp.)				<u> </u>

# **EGGPLANT**

	DOSAGE						
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS				
Colorado Potato Beetle	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre by air or in a				
Corn Earworm			minimum of 10 gallons per acre with ground equipment. When applying by				
European Corn Borer	,		air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in				
Flea Beetle			the finished spray. Thorough coverage is essential to achieve control.				
Cabbage Looper							
Cucumber Beetle			Do not make applications less than 7 days apart.				
Tomato Pinworm		•					
Tomato Hornworm			Do not apply more than 0.2 lb active ingredient (12.8 ounces formulated				
Vegetable Leafminer			product) per acre per season.				
Whitefly							
Armyworms	į		Do not apply within 7 days of harvest.				
Plant Bug		-					
Stink Bug							
Thrips							
,							
Banks Grass Mite	0.08-0.10	5.12-6.4					
Twospotted Spider							
Mite							
Carmine Mite							
Pacific Spider Mite			·				
Lygus spp.							

# **GRAPES**

	DOS	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Eastern Grape Leafhopper Variegated Leafhopper Western Grape Leafhopper	0.05 to 0.10	3.2 to 6.4	Apply in a minimum of 10 gallons of finished spray by air or in a minimum of 25 gallons of finished spray with ground equipment.  When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray.
Black Vine Weevil Glasywinged Sharpshooter Twospotted Spider Mite	0.10	6.4	Thorough coverage is essential to achieve control.  When pest pressure is moderate to severe, use higher rate.  Do not apply more than 0.10 lb ai per acre per season.  Do not apply within 30 days of harvest.

## HOPS

	DOSAGE		
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.06-0.1	3.8-6.4	Do not exceed 0.1 lb ai per acre per application.
Armyworms			Do not exceed 0.3 lb ai per acre per season.
Cutworms			
Leafrollers			A spray interval of 21 days between applications must be maintained.
Loopers		•	
Root Weevils	0.05-0.1	3.2-6.4	A 14 day pre-harvest interval must be observed.
			Application by ground: For best results, full coverage is essential. Early season
Twospotted spider mite	0.1	6.4	recommend 100-150 gallons of spray per acre. Late season recommend 200-250 gallons of spray per acre.
			For Root Weevil control, make a directed spray to the base of the plant. Spray up the vine 3 feet and the soil surface 1.5 to 2 feet on either side of the plant.
			Application by air for late season control of twospotted spider mites: Apply no less than 6.4 oz (0.1 lb ai) per application in a minimum of 10 gallons per acre.
			Use of ultra low volume (ULV) application on hops is prohibited.

# LETTUCE, HEAD

	DOS	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.10	2.1-6.4	Apply in water as necessary for insect control using a minimum of 15
Armyworms			gallons of finished spray per acre with ground equipment and 5 gallons per
Corn Earworm			acre by air. When applying by air, 1-2 quarts of emulsified oil may be
Cucumber Beetles			substituted for 1-2 quarts of water in the finished spray. Thorough coverage
Cutworms			is essential to achieve control.
Diamondback Moth			
Flea Beetles	1		Do not make applications less than 7 days apart.
Imported			
Cabbageworm			A maximum of 0.5 lb active ingredient may be applied per acre per season.
Leafhoppers			
Loopers			Do not apply within 7 days of harvest.
Salt Marsh Caterpillar			
Stink Bug spp.			,
Tobacco Budworm			
Whitefly			
Lygus, spp.	0.08-0.10	5.12-6.4	-
Carmine Mite	0.00-0.10	5.12-0.4	
Twospotted Spider			
Mite			
TATIC	<u></u>		<u> </u>

Please read instructions on revers	e before completing form			Form /		,	0, Approval expires 5-31-98
	Unit	ed States		ĺ	Registrat	ion	OPP Identifier Number
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		lication for Pe	sticide – Se	ction I	· · · · · · · · · · · · · · · · · · ·		
Company/Product Number			2. EPA Produ			3. Propos	ed Classification
70506-LT; 70506-LI			LaRocca			<u> </u>	
4. Company/Product (Name)	-4:-1:4:-		PM #			Non	e X Restricted
Bifenthrin EC Agricultural Inse Bifenthrin EC-CA Agricultural			13				,
5. Name and Address of Appl United Phosphorus, Inc. 423 Riverview Plaza Trenton, NJ 08611							RA Section 3(c)(3) sition and labeling
Check if this is a new ad	dress		Product Name	9			•••
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Material This Product Will be	e Packaged in:						
Child-Resistant Packaging Yes X No	Unit Packaging Yes X No If "Yes"	X	ter Soluble Pac Yes No Yes"		No nor	X Plas	stic ss
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Name Elizabeth Anne Brown		Title ChemReg I Authorized	nternational, LL Agent	С		hone No. (In 92-7905	clude Area Code)
I certify that the statements I h I acknowledge that any knowin both under applicable law	ave made on this form and	tement may be puni				6.	Date Application Received
2. Signature Llejanus ance Br	own	3. Title ChemReg I Authorized	nternational, LLe Agent	С			(Stamped)
4. Typed Name		5. Date	•				
Elizabeth Anne Brown		7/28/2004					

EPA Form 8570-1 (Rev. 8-94) Previous editions are obsolete.

White – EPA File Copy (Original) Yellow – Applicant Copy

# 1990 OLD BRIDGE ROAD, SUITE 201 LAKE RIDGE, VIRGINIA 22192-2383

DIRECT: 703-492-7905

Main: 703-492-0445

Fax: 703-492-0668

E-MAIL:

brown@chemreg.com

WEB SITES: www.chemreg.com

www.pesticide.net

ELIZABETH A. BROWN, PH.D.

July 28, 2004

Document Processing Desk
U.S. Environmental Protection Agency (7505C)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall 2
1801 South Bell Street
Arlington, VA 22202-4501

Attn: George LaRocca (PM 13)

Bifenthrin EC Agricultural Insecticide EPA File Symbol 70506-LT

Bifenthrin EC-CA Agricultural Insecticide EPA File Symbol 70506-LI

Response to Agency Letter of July 21, 2004

Dear George:

Re:

On behalf of our client, United Phosphorus, Inc. (UPI), this submission is in response to the Agency letter of July 21, 2004.

Agency letters point 1: UPI agrees to the terms and conditions that have been imposed on registrations of similar synthetic pyrethroid products. As discussed with you on July 26, 2004, those terms and conditions are being addressed by studies submitted by the Pyrethroid Working Group. UPI has addressed those studies and requirements on its data matrices and in its offers to pay data compensation and continues to discuss any additional requirements with that submitter.

Agency letters point 2: UPI previously has offered to share in the cost of developing the data to fulfill the requirement for a developmental neurotoxicity study (OPPTS 870.6300).

Enclosed please find revised draft labeling (5 copies plus one redline copy to highlight the changes) to address the required labeling revisions for each 70506-LT and 70506-LI (Agency letters point 3)

#### CONSULTANTS TO SUCCESS<sup>SM</sup>

Over One Hundred and Fifty Years of Combined Experience Assisting Chemical, Pesticide, Bio-Chemical and Life Science Companies on a Wide Range of Issues, Including Regulatory Strategies, Registration, Data Support and Compensation, Quality Assurance, Study Design and Scientific Matters.



Letter to G. LaRocca, July 28, 2004, page 2

Please let me know if you have any questions or if anything else is needed. We look forward to a rapid response to this submission.

Regards,

Elizabeth dire Brown

Elizabeth Anne Brown

cc: United Phosphorus, Inc.

#### RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

#### BIFENTHRIN EC AGRICULTURAL INSECTICIDE

#### BIFENTHRIN EC AGRICULTURAL INSECTICIDE IS NOT FOR SALE OR USE IN CALIFORNIA.

Active Ingredient:  By Wt.  Bifenthrin* (2 methyl[1,1'-biphenyl]-3-yl) methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxlate	
*Cis isomers 97% minimum, trans isomers 3% maximum.  **Contain xylene range aromatic solvents This product contains 2 pounds active ingredient per gallon.	
KEEP OUT OF REACH OF CHILDREN WARNING AVISO	·

This label must be in the possession of the user at the time of application.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

	FIRST AID
If swallowed	Call poison control center or doctor immediately for treatment advice.
	<ul> <li>Do not induce vomiting unless told to do so by the poison control center or doctor.</li> </ul>
	Do not give any liquid to the person.
	Do not give anything by mouth to an unconscious person.
If in eyes	Hold eye open and rinse slowly and gently with water for 15-20 minutes.
	<ul> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> </ul>
	Call a poison control center or doctor for treatment advice.
If inhaled	Move person to fresh air.
	• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably
	by mouth-to-mouth, if possible.
	Call a poison control center or doctor for further treatment advice.
If on skin or	Take off contaminated clothing.
clothing	Rinse skin immediately with plenty of water for 15-20 minutes.
	Call a poison control center or doctor for treatment advice.

#### NOTE TO PHYSICIAN

This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE, CALL THE NATIONAL PESTICIDE INFORMATION CENTER 1-800-858-7378.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.



Manufactured for: United Phosphorus, Inc. 423 Riverview Plaza • Trenton, NJ 08611 1-800-247-1557 • www.upi-usa.com

EPA Reg. No. 70506-<u>57</u> EPA Est. No. Net Contents:

# PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals Warning

WARNING. May be fatal if swallowed. <u>Causes substantial but temporary eye injury</u>. <u>Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield or safety glasses)</u>. Harmful if absorbed through skin or inhaled. Avoid breathing spray mist. <u>Avoid contact with skin. Causes substantial but temporary eye injury</u>. <u>Do not get in eyes or on clothing</u>. <u>Avoid contact with skin. Wear protective eyewear</u>. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

#### Personal Protective Equipment:

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions or category E on an EPA chemical resistance category selection chart.

#### Handlers who may be exposed to the dilute through application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, or Nitrile rubber or neoprene rubber or Viton.
- · Shoes plus socks

#### Handlers who may be exposed to the concentrate through mixing, loading, application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber, or Viton.
- · Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

#### **Environmental Hazards**

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

#### Physical/Chemical Hazards

Do not use or store near heat or open flame.

#### **DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**Resistance:** Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control in your area.

#### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- · Coveralls.
- Chemical-resistant gloves, such as Barrier Laminate or Nitrile Rubber or Neoprene Rubber or Viton.
- · Shoes plus socks.

#### STORAGE AND DISPOSAL

**Pesticide Storage:** Do not freeze. Do not store below 40°F. If crystals are observed, warm material to above 60°F by placing in warm location. Shake or roll container periodically to redissolve solids.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.

**To Confine Spill:** If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Container Disposal: Metal or Plastic Container: Triple rinse (or equivalent), then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

Returnable, Refillable Containers: Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

#### **Chemigation Use Directions**

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

For LEPA irrigation a minimum of 0.75 inch of water per acre is recommended. Where non-emulsified oils are used as the diluent, 1 to 2 pints per acre is recommended.

Results from utilizing chemigation have been variable and depend upon the set up and calibration of equipment. Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. Contact your State Agricultural Extension Service specialists, equipment manufacturers or other experts for consultation on the suitability of the equipment set up to obtain effective control of the target insect pests.

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease application during a mechanical stoppage may result in undesirable residues to adjacent areas.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Bifenthrin EC Agricultural Insecticide should be applied continuously for the duration of the water application. Bifenthrin EC Agricultural Insecticide should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation, a minimum of 0.5 inch per acre of irrigation water is recommended. Agitation generally is not required when a suitable diluent is used. A diluent test should be conducted to ensure that phase separation will not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

#### **Spray Drift Precautions**

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMANENT STREAMS; MARSHES OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.

Do not apply by ground equipment within 25 feet, or by air within 150 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds. Increase the buffer zone to 450 feet when ultra low volume (ULV) application is made in cotton. Use of ultra low volume (ULV) application on corn and hops is prohibited.

For aerial applications, the spray boom should be mounted on the aircraft so as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of wing span or rotor diameter.

Use the largest droplet size consistent with good pest control. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.

Spray should be released at the lowest height consistent with pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided.

Make aerial or ground applications when the wind velocity favors on target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid applications when wind gusts approach 15 mph.

Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

Do not cultivate within 10 feet of the aquatic areas so as to allow growth of a vegetative filter strip.

Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift to aquatic areas. Avoid spraying during conditions of low humidity and/or high temperature.

Do not make aerial or ground applications during temperature inversions. Do not make aerial or ground applications to corn if heavy rainfall is imminent. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

#### **Rotational Crops**

Crops for which bifenthrin tolerances exist may be rotated at any time. All other crops may be rotated 30 days following the final application of bifenthrinafter the last application.

#### Tank-Mixture

Bifenthrin EC Agricultural Insecticide may be applied in tank mixtures with other products approved for use on registered crops.

Observe all restrictions and precautions which appear on the labels of these products. Test for compatibility of products before mixing.

#### **Application Instructions**

Rate of application is variable according to pest pressure, timing of sprays, and field scouting. Use lower rates under light to moderate infestations; higher rates under heavy insect pressure and for mite control. Arid climates generally require higher rates.

Cultivation within 10 feet of a water body is prohibited to allow for the growth of a vegetated filter strip.

In New York State this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

#### **Spray Drift Precautions**

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES: RESERVOIRS; RIVERS; PERMANENT STREAMS; MARSHES OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.

Do not apply by ground equipment within 25 feet, or by air within 150 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds. Increase the buffer zone to 450 feet when ultra low volume (ULV) application is made in corton. Use of ultra low volume (ULV) application on corn and hops is prohibited.

For aerial applications, the spray boom should be mounted on the aircraft so as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of wing span or rotor diameter.

Use the largest droplet size consistent with good pest control. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.

Spray should be released at the lowest height consistent with pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided.

Make aerial or ground applications when the wind velocity favors on target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid applications when wind gusts approach 15 mph.

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#### INDEX TO CROPS LISTED ON THIS LABEL

Artichoke

Brassicas

Caneberries

Canola, Crambe, Rapeseed

Citrus

Cotton

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (At Plant Use)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (PRE & PPI)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (Foliar Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (At Plant Use)

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Cucurbits

Eggplant

Grapes

Hops

Lettuce, Head

Pears

Peppers, Bell and Non-Bell

Spinach

Succulent Peas and Beans

Tomatoes

### ARTICHOKE

LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
0.10	6.4	Apply when pest population reaches damaging threshold and repeat as necessary to maintain control, but not more often than 15 day intervals.
		Application by ground: Apply a full cover spray in a minimum of 75 gallons of finished spray per acre.
	,	Application by air: Apply specified dosage in a minimum of 10 gallons per acre.
		Do not exceed 0.5 lb. AI/A per season.
		A 5-day preharvest interval must be observed.
1		

## BRASSICAS

,		DOSA	GE ·	
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Head and Stem	Cutworms	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre
Brassica	Corn Earworm			by air or in a minimum of 10 gallons per acre with ground
Vegetables	Tobacco			equipment. When applying by air, 1-2 quarts of emulsified
including:	Budworm			oil may be substituted for 1-2 quarts of water in the finished
Broccoli	Saltmarsh			spray. Thorough coverage is essential to achieve control.
Chinese Broccoli	Caterpillar			
(gai lon, white	Leafhoppers			Do not apply more than 0.5 lb active ingredient (1 quart) per
flowering	Flea Beetles			acre per season.
broccoli)	Imported			·
Brussels Sprouts	Cabbageworm		,	Do not make more than 5 applications after bloom.
Cauliflower	Cucumber			·
Cavalo Broccolo	Beetles			Do not make applications less than 7 days apart.
Kohlrabi	Aphids			
Cabbage	Whitefly			Do not apply within 7 days of harvest.
Chinese Cabbage	Armyworms			·
(napa)	Loopers			
Chinese Mustard	Stink Bugs	,		
Cabbage (gai	Crickets	Į.		·
choy)	Ground Beetles			
	Thrips			·
	Wireworm		!	
	(Adults)	·		
	Diamondback			·
	Moth			
	Banks Grass	0.08-0.10	5.12-6.4	
	Mite			
	Twospotted			
	Spider Mite			
	Pacific Spider			
	Mite			·
	Carmine Mite			,
	Lygus spp.			

# **CANEBERRIES**

		DOSAG	GE	
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Caneberries	Leafrollers	0.05-0.10	3.2-6.4	Apply by air or ground equipment using sufficient water to
including:	Orange Tortrix			obtain full coverage of foliage (minimum of 10 gallons per
Blackberries	Root Weevils			acre by air and 50 gallons per acre by ground).
Bingleberries				
Dewberries		-		One application may be made pre-bloom and a second
Lowberries				application may be made post bloom.
Marionberries				
Olallieberries				Do not exceed 0.2 lb. AI/A per season.
Youngberries	,	,		ļ.
Loganberries				Do not apply within 3 days of harvest.
Raspberries				
	Spider Mites	0.10	6.4	
		, ,		
				,
		.		
·				

## CANOLA, CRAMBE, RAPESEED

	DO	SAGE	·
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.04	2.1-2.6	Apply in a minimum of 2 gallons of finished spray per acre by air or in a
Cutworms			minimum of 10 gallons per acre with ground equipment. When applying
Diamondback		-	by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of
Moth		•	water in the finished spray. Thorough coverage is essential to achieve
Loopers	· 1		control.
Other			
Lepidopterous			Do not apply more than 0.08 lb active ingredient (5.12 ounces formulated
Larvae			product) per acre per season. Do not make applications less than 14 days
Flea Beetle		•	apart.
Flea Hopper			
Grasshopper			Do not apply within 35 days of harvest.
Plant Bug	1	,	
Stink Bugs			
Seedpod Weevil		•	
Thrips			
Whitefly			·
Armyworms			

# CITRUS

PEST	DOSAGE	REMARKS AND RESTRICTIONS
Diaprepes Root	16-32 ounces (0.25-0.50 pound	Apply to individual citrus resets, when not in solid
Weevil (Diaprepes abbreviatus)	active) per acre	planted rows, using hand-gun or shielded sprayer.
Fire Ants		Peak emergence of Diaprepes root weevil
Asian Cockroach	·	generally occurs in the spring. Depending on
		weather conditions, a minor emergence of
	·	Diaprepes root weevil may also occur in the fall.
	•	
		If the citrus grove to be treated is in an area where
	·	weather conditions are conducive to primary
	• •	emergence occurring in the spring, 32 fluid ounces
		formulated product should be used to obtain the
		longest residual management of Diaprepes root
		weevil.
·		If the citrus grove to be treated is in an area where
		weather conditions will promote more than one
		peak of pest emergence, 16 fluid ounces
•		formulated product can be applied early season
		and 16 fluid ounces formulated product can be
·		applied later in the season.
		If emergence extends beyond the residual
		protection of Bifenthrin EC, grower is advised to
		use additional management strategies (i.e. foliar
		adult control or soil larvae control such as
•		nematodes). Contact your state agricultural
	<u> </u>	Extension Specialist as to the recommendation
		suited for local conditions.
	÷ '	Do not apply through irrigation systems.
		Do not allow any application of Bifenthrin EC to
		contact fruit or foliage.
		Do not apply more than a total of 32 fluid ounces
		of formulated product (0.5 lb. a.i.) per acre per
		year.
	· .	
		Apply the specified dosage in a minimum of 30
		gallons of finished spray per acre.
·		Ground application only. Do not apply by air
		Ground application only. Do not apply by air.
		Do not apply within I day of harvest.
		1 Do not appry within 1 day of harvest.

# COTTON

,	DOS	SAGE		
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS	
European Corn Borer	0.02-0.10	1.3-6.4	Bifenthrin EC may be applied in water or refined	
Soybean (Banded) Thrips	·		vegetable oil (soybean/cottonseed).	
Tobacco Thrips				
• •	,		<b>Application in Water:</b> Apply in a minimum of 5	
			gallons per acre with ground equipment or 1 gallon	
			per acre by aircraft. When applying by air, I quart of	
		1	emulsified oil may be substituted for one quart of	
•	1		water in the finished spray.	
•				
Boll Weevil	0.04-0.10	2.6-6.4		
Bollworm			<b>ULV Application:</b> Apply the recommended rate of	
Cabbage Looper			Bifenthrin EC in refined vegetable oil in a minimum	
Cotton Aphid	1		of 1 quart of finished spray per acre with aircraft	
Cotton Fleahopper			calibrated to give adequate coverage.	
Cotton Leafperforator	٧.		·	
Cutworms			To Control Boll Weevil: Apply Bifenthrin EC at an	
Fall Armyworm			interval of 3 to 4 days until pest numbers are reduced	
Plant Bugs			to acceptable levels.	
Saltmarsh Caterpillar			·	
Southern Garden Leafhopper			To Control Mites and Aphids: Apply when pests	
Stink Bugs			first appear. Repeat as necessary to maintain control	
Tobacco Budworm			Higher rates will be required once a damaging	
Whitefly			threshold is established.	
Yellow Striped Armyworm				
Beet Armyworm	0.06-0.10	3.8-6.4	Do not apply more than 0.5 pound active ingredient	
Carmine Spider Mite			per acre per season.	
Lygus spp.		-		
Pink Bollworm			Do not make more than 10 synthetic pyrethroid	
Twospotted Spider Mite			applications (of one product or combination of	
·			products) to a cotton crop in one growing season.	
			Synthetic pyrethroid products include Ambush®,	
			Ammo <sup>®</sup> , Asana <sup>®</sup> XL, Baythroid <sup>®</sup> , Capture <sup>®</sup> ,	
			Danitol <sup>®</sup> , Karate <sup>®</sup> , Mustang <sup>®</sup> , and Scout X-TRA <sup>®</sup> .	
•				
•	1		Do not graze livestock in treated areas or cut treated	
			crops for feed.	
	•	1	Do not apply within 14 days of harvest.	

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (AT PLANT USE)

PEST	DOSAGE		REMARKS AND RESTRICTIONS					
Corn Rootworm, Larvae Northern Southern Western	0.0046 lb AI per 1,000 linear feet of row	0.30 fluid ounces per 1,000 linear feet of row	spray nozz row. Use t in a minim Mix Bifent tank appro- amount of	Apply as a 5 to 7 inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe, in front of the press wheel centered over the row. Use the table below to determine the Bifenthrin EC needs per acre. Apply in a minimum of 3 gallons of finished spray per acre.  Mix Bifenthrin EC with water or fertilizer in the following manner. Fill the spray tank approximately one-half full with water or liquid fertilizer, add the proper amount of Bifenthrin EC then add the rest of the water or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray				
Army Cutworm Cutworm Species Grubs Seed Corn Beetle Seed Corn Maggot True Armyworm or Armyworm Species Wireworm	0.0023 to 0.0046 lb AI per 1,000 linear fect of row	0.15 to 0.30 fluid ounces per 1,000 linear feet of row	Applications of Bifenthrin EC alone or in recommended tank mixtures, in conjunction with in furrow pop-up fertilizers may be used. A jar compatibility test should be performed with appropriate ratio of Bifenthrin EC and fertilizer to ensure mixture will stay in solution. Constant agitation should be maintained during mixing and application.  Do not apply to soil where there is greater than 30% cover of crop residue remaining.				I. A jar compatibility nrin EC and fertilizer to hould be maintained	
			of treatmer  Do not app application	nt. Ily more than 0	.1 pound active	·	for feed within 30 days son as an at plant	
Row Spacings (inches)				40	38	36	30	
	Bifenthrin EC Agricultural Insecticide (pounds ai per acre)			0.060	0.064	0.069	0.080	
Bifenthrin EC Agricultural Insecticide (formulated product, ounces per acre)				3.9	4.1	4.4	5.12	

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (PRE & PPI)

PEST	DOSAGE		REMARKS AND RESTRICTIONS
Black Cutworm	0.047 to	3 to 4 fl.	The 3-4 oz./A rate must be applied as PPI and can be tankmixed and
White Grub	0.062 pound	oz./A Pre-	applied with PPI herbicides. Incorporation of Bifenthrin EC should not be
Wireworm	AI/A Pre-	Plant	any deeper than the intended planting depth and no deeper than 3 inches.
Seedcorn Maggot	Plant	Incorporated	Incorporation depth should be close to the intended seed planting depth.
Armyworm spp.	Incorporated	(PPI)	,
Stalkborer	(PPI)		
Black Cutworm	0.040 LB	2.56 FL.	The 2.56 oz/A rate may be applied PRE and can be tankmixed and applied
Armyworm spp.	AI/A Pre-	OZ./A Pre-	with PRE herbicides.
Stalkborer	emergence	emergence	· .
	(PRE)	(PRE)	

## FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (FOLIAR USE)

	DOSAGE		
PEST	LB AI/A	· FL OZ/A ·	REMARKS AND RESTRICTIONS
Aphids	0.033-0.10	: 2.1-6.4	Apply in a minimum of 2-5 gallons of finished spray per acre by
Army Cutworm			aircraft or in a minimum of 10 gallons per acre with ground
Beet Armyworm			equipment. To improve control by aircraft, use 5 gallons of
Cereal Leaf Beetle		,	finished spray per acre particularly when initial populations are
Chinch Bug			heavier than normal. When applying by air, 1-2 quarts of
Common Stalk Borer			emulsified oil may be substituted for 1-2 quarts of water in the
Corn Earworm			finished spray. Thorough coverage is essential to achieve control.
Corn Rootworm Adults			
Cucumber Beetle Adult		}	To Control Ear-Attacking Pests: Apply Bifenthrin EC just
Cutworm Species			before silking and repeat as necessary to maintain control.
European Corn Borer			
Fall Armyworm			Southwestern Corn Borer, European Corn Borer: Make
Flea Beetle			application for corn borer control with initial application at or
Grasshoppers			shortly before egg hatch.
Greenbug			
Japanese Beetle Adult			For Control of Other Insect Pests: Apply when pests first
Sap Beetle			appear and repeat as necessary.
Southern Armyworm			
Southern Corn Leaf Beetle			For Control of Mites: Apply for Banks Grass Mite control when
Southwestern Corn Borer			colonies first form prior to leaf damage or discoloration and before
Stinkbugs			dispersal above the bottom third of the plant.
Tarnished Plant Bug		į .	
True Armyworm or			For Twospotted Spider Mite and Carmine Mite Control: Apply
Armyworm			when colonies first form prior to leaf damage or discoloration and
Species			before wide-spread mite dispersal throughout the canopy.
Webworms		· ·	
Western Bean Cutworm			Higher rates will be necessary for heavier initial populations and
Yellowstriped Armyworm			corn under heat or drought stress. Field experience with
			dimethoate at 0.5 lb active per acre in tank mixture has
			demonstrated good control under these conditions.
Banks Grass Mite	0.08-0.10	5.12-6.4	For Mite Control in Texas, New Mexico, Oklahoma, and
Carmine Mite		-	<b>Arizona:</b> Apply in a minimum of 5 gallons of finished spray per
Twospotted Spider Mite			acre by aircraft or in a minimum of 10 gallons per acre with
			ground equipment.
•			
,			Do not apply more than 0.3 pound active per acre per season
			including pre & ppi, at plant plus foliar applications.
	~		
			Do not graze livestock in treated areas or cut treated crops for feed
			within 30 days of the last application.
			Use of ultra low volume (ULV) application on corn is prohibited.
			•
			Do not make acrial or ground applications to corn if heavy rainfall
			is imminent.
•			Use of Bifenthrin EC Agricultural Insecticide on corn is prohibited
			in all coastal counties.
•			
			Do not apply within 30 days of harvest.

## SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (AT PLANT USE)

PEST	DOS	AGE.		RE	MARKS AND	RESTRICTIO	ONS	
Corn Rootworm, Larvae	0.0046	0.30	Apply as a	5 to 7 inch T-l	oand treatment	over an open se	ed furrow. Position the	
Northern	pound	fluid	spray nozzle behind the planter shoe, in front of the press wheel centered ov					
Southern	active	ounces	row. Use t	he table below	to determine th	ne Bifenthrin E	C needs per acre. Apply	
Western	per	per	in a minim	um of 3 gallon	s of finished sp	ray per acre.		
	1,000	1,000						
•	linear	linear	Mix Bifent	hrin EC with v	vater or fertilize	er in the followi	ng manner. Fill the spray	
	feet of	feet of	tank approx	ximately one-h	alf full with wa	ter or liquid fer	tilizer, add the proper	
e .	row	row	amount of	Bifenthrin EC	then add the res	st of the water of	or fertilizer. Provide	
			sufficient a	gitation during	g mixing and ap	plication to ma	intain a uniform spray	
			mixture.				•	
Army Cutworm	0.0023	0.15 to						
Cutworm Species	to	0.30	1				tank mixtures, in	
Grubs	0.0046	fluid	1 2			•	ed. A jar compatibility	
Seed Corn Beetle	pound	ounces	test should	be performed	with appropriat	e ratio of Bifen	thrin EC and fertilizer to	
Seed Corn Maggot	active	per		•		nstant agitation	should be maintained	
True Armyworm or	per	1,000	during mix	ing and applica	ation.			
Armyworm Species	1,000	linear				•	-	
Wireworm	linear	feet of	1	ly to soil wher	e there is greate	er than 30% cov	er of crop residue	
	feet of	row	remaining.					
	row		_			`		
			Do not app	ly within 30 da	ays of harvest.			
•			<u></u>	11			6 6 1 111 00 1	
		,	1		treated area or	cut treated crop	os for feed within 30 days	
			of treatmer	ır.				
			Do not one	lu mara than O	1 nound setime		ason as an at plant	
			application	•	.1 pound active	per acre per se	ason as an at plant	
Row Spacings (inches		1	аррисацоп	40	38 .	36	30	
Bifenthrin EC (pounds ai p	er acre)	•		0.060	0.064	0.069	0.080	
Bifenthrin EC (formulated		cra)		3.9	4.1	4.4	5.12	
Differential EC (Tormulated	ounces per a	CIC)		3.9	4.1	7.7	3.14	

## SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (FOLIAR USE)

	DOSA	GE		
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS	
Aphids Army Cutworm Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm Adults Cucumber Beetle Adult Cutworm Species European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Greenbug Japanese Beetle Adult Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southwestern Corn Borer Stinkbugs Tarnished Plant Bug True Armyworm or Armyworm Species Webworms		Τ .	REMARKS AND RESTRICTIONS  Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  To Control Ear-Attacking Pests: Apply Bifenthrin EC when silking begins and repeat as necessary to maintain control.  Southwestern Corn Borer, European Corn Borer: Make 2 applications for corn borer control with the initial application at or shortly before egg hatch.  For Control of Other Insect Pests: Apply when pests first appear and repeat as necessary.  For Control of Mites: Apply for Banks Grass Mites control when colonies first form from prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.  For Twospotted Spider Mite and Carmine Mite Control:	
Western Bean Cutworm Yellowstriped Armyworm  Banks Grass Mite Carmine Mite	0.08-0.10	5.12-6.4	Apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy.  Higher rates will be necessary for heavier initial populations and corn under heat or drought stress.	
Twospotted Spider Mite			Do not make more than 0.2 pounds active ingredient (12.8 ounces formulated product) per acre per season.  Do not graze livestock in treated areas of cut treated crop for feed within 1 day of the last application.  Use of ultra low volume (ULV) application on corn is prohibited.	
	· i .		Do not make aerial or ground applications to corn of heavy rainfall is imminent.  Use of Bifenthrin EC on corn is prohibited in all coastal counties.  Do not apply within 1 day of harvest.	

## **CUCURBITS**

		DOSA	GE	
, CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Chayote (fruit) Chinese waxgourd (Chinese preserving melon) Citron melon Cucumber Gherkin Gourd, edible (includes hyloan, cucuzza), (Luffa spp.) (includes hechima, Chinese okra), (Momordica spp.) (includes balsam apple, balsam pear, bitter melon, Chinese cucumber) Muskmelon (hybrids and/or cultivars	Aphids Cutworm Cabbage Looper Leafhoppers Cucumber Beetles Squash Bugs Melonworm Pickleworm Plant Bug Stink Bugs Rindworm Squash Vine Borer Armyworms Corn Earworm Tobacco Budworm Grasshopper	0.04-0.10	2.6-6.4	Apply in a minimum of 5 gallons of finished spray per acre by air or in a minimum of 20 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil many be substituted for 1-2 quarts of water in the finished spray. Thorough coverage is essential to achieve control.  Do not apply more than 0.3 lb active ingredient (19.2 ounces formulated product) per acre per season.  Do not make more than two applications after bloom.  Do not make applications less than 7 days apart.  Do not apply within 3 days of harvest.
of Cucumis melo) (includes		0.08-0.10	5.12-6.4	·
true cantaloupe, cantaloupe casaba, crenshaw melon, golden,	Whitefly Banks Grass Mite Twospotted Spider Mite	0.08-0.10	3.12-0.4	
pershaw melon, honeydew melon,	Carmine Mite Lygus spp.			
honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon) Pumpkin (Cucurbita spp.) Squash, summer				
(includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini) Squash, winter				
(includes butternut squash, calabaza, hubbard squash (C. mixte; C. pepo), includes acorn squash, spaghetti				
squash) Watermelon, (includes hybrids and or varieties of Citrullis spp.)				·

## EGGPLANT.

·			
	DO	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Colorado Potato Beetle Corn Earworm European Corn Borer	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre by air or in a minimum of 10 gallons per acre with ground equipment. When applying by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in
Flea Beetle			the finished spray. Thorough coverage is essential to achieve control.
Cabbage Looper			
Cucumber Beetle			Do not make applications less than 7 days apart.
Tomato Pinworm	-		
Tomato Hornworm			Do not apply more than 0.2 lb active ingredient (12.8 ounces formulated
Vegetable Leafminer		•	product) per acre per season.
Whitefly			
Armyworms			Do not apply within 7 days of harvest.
Plant Bug			
Stink Bug			
Thrips			
			•
Banks Grass Mite	0.08-0.10	5.12-6.4	<del>-</del>
Twospotted Spider	0.00 0.10	5.12 0.1	
Mite			·
Carmine Mite			
Pacific Spider Mite			
Lygus spp.			

## **GRAPES**

	DOS	SAGE	-
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Eastern Grape Leafhopper Variegated Leafhopper Western Grape Leafhopper	0.05 το 0.10	3.2 to 6.4	Apply in a minimum of 10 gallons of finished spray by air or in a minimum of 25 gallons of finished spray with ground equipment.  When applying by air, 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray.
Black Vine Weevil Glasywinged Sharpshooter Twospotted Spider Mite	0.10	6.4	Thorough coverage is essential to achieve control. When pest pressure is moderate to severe, use higher rate. Do not apply more than 0.10 lb ai per acre per season. Do not apply within 30 days of harvest.

## HOPS

	DO	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.06-0.1	3.8-6.4	Do not exceed 0.1 lb ai per acre per application.
Armyworms		.	Do not exceed 0.3 lb ai per acre <b>per season</b> .
Cutworms			
Leafrollers		1 '	A spray interval of 21 days between applications must be maintained.
Loopers			
Root Weevils	0.05-0.1	3.2-6.4	A 14 day pre-harvest interval must be observed.
			Application by ground: For best results, full coverage is essential. Early season
Twospotted spider mite	0.1	6.4	recommend 100-150 gallons of spray per acre. Late season recommend 200-250 gallons of spray per acre.
			For Root Weevil control, make a directed spray to the base of the plant. Spray up the vine 3 feet and the soil surface 1.5 to 2 feet on either side of the plant.
			Application by air for late season control of twospotted spider mites: Apply no less than 6.4 oz (0.1 lb ai) per application in a minimum of 10 gallons per
			acre.
			Use of ultra low volume (ULV) application on hops is prohibited.

## LETTUCE, HEAD

	DOS	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.10	2.1-6.4	Apply in water as necessary for insect control using a minimum of 15
Armyworms		•	gallons of finished spray per acre with ground equipment and 5 gallons per
Corn Earworm			acre by air. When applying by air, 1-2 quarts of emulsified oil may be
Cucumber Beetles			substituted for 1-2 quarts of water in the finished spray. Thorough coverage
Cutworms		/ .	is essential to achieve control.
Diamondback Moth		•	
Flea Beetles			Do not make applications less than 7 days apart.
Imported			
Cabbageworm			A maximum of 0.5 lb active ingredient may be applied per acre per season.
Leafhoppers			
Loopers		•.	Do not apply within 7 days of harvest.
Salt Marsh Caterpillar			
Stink Bug spp.			
Tobacco Budworm			·
Whitefly			
, t	.		
		•	
Lygus, spp.	0.08-0.10	5.12-6.4	
Carmine Mite	0.00-0.10	3.12-0.4	
Twospotted Spider			
Mite			
Wite	<u> </u>		

## **PEARS**

	DOS	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.04 to 0.2	2.6 to 12.8	Application by ground: Apply as a dilute (minimum of 200 gallons of finished
Coddling Moth			spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre)
Cutworms			spray in sufficient water to provide thorough coverage.
Green			·
Fruitworm		•	Application by air: Apply the specified dosage in a minimum of 10 gallons per
Leafhoppers			acre by air.
Leafminers			·
Leafrollers			Do not apply more than 0.5 pound active per acre per season with no more than
Lygus spp.			0.45 pound active per acre applied after petal fall.
Plant Bugs			
Plum Curculio			Apply as necessary to maintain control using a minimum of 30 day spray
San Jose			interval.
Scale (Crawlers)			
Stink Bugs			Do not graze livestock in treated orchards or cut treated cover crops for feed.
Tarnished			,
Plant Bugs			
Twospotted Spider	0.06 to 0.2	8.8 to 12.8	Apply up to 14 days prior to harvest.
Mite			·
Yellow Mite			
European Red Mite	0.08 to 0.2	5.12 to 12.8_	

## PEPPERS, BELL AND NON-BELL

	DOS	AGE	·
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Armyworms	0.033-0.1	2.1-6.4	Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply
Corn Earworm			with ground equipment using a minimum of 10 gallons of finished spray per acre or
Cucumber Beetles			a minimum of 2 gallons per acre by aircraft.
Cutworms			·
European Corn			Do not make applications less than 7 days apart.
Borer			
Flea Beetles			Do not apply more than 0.20 pound active ingredient per acre per season.
Leafminers			
Loopers		_	Do not apply within 7 days of harvest.
Pepper Weevil			-
Thrips			
Whitefly			
Lygus spp.	0.8-0.10	5.12-6.4	,
Broad Mite			
Carmine Mite			
Twospotted Spider			`
Mite			

## SPINACH

PESTS	DOSAGE	REMARKS AND RESTRICTIONS
Colorado Potato Beetle	2.1 to 6.4 ounces (0.033 to	For control of whiteflies apply foliar treatments of Bifenthrin EC by
Tomato Pinworm	0.10 pound active) per acre	ground or air at rates of up to 0.4 pt. (0.1 lb active) per acre at minimum
Tomato Hornworm		7-day intervals up to a maximum of 4 applications.
Armyworms		
Corn Earworm		For control of fire ants apply Bifenthrin EC to the soil (at planting) or as a
Cucumber Beetles		foliar treatment by ground or air at rates of up to 0.4 pt. (0.1 lb active) per
Cutworms		acre at minimum 7-day intervals up to a maximum of 4 applications.
European Corn Borer		
Flea Beetles		Apply the specified dosage in 5-50 gallons of finished spray per acre by
Leafminers		air or 10-50 gallons of finished spray per acre by ground.
·Loopers		
Pepper Weevil	•	Do not make applications less than 7 days apart.
Thrips		,
Whitefly		•
Broad Mite	5.12 to 6.4 ounces (0.08 to	Do not apply more than 0.4 pounds active ingredient per acre per season.
Banks Grass Mite	0.10 pound active) per acre	
Twospotted Spider Mite		Do not apply within 40 days of harvest.
Carmine Mite		
Pacific Spider Mite		,
Lygus spp.		,
Fire Ants		

#### SUCCULENT PEAS AND BEANS

	<u> </u>	DOS	AGE	
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Pea (Pisum spp.)	Flea Beetle	0.025-0.10	1.6-6.4	Apply in a minimum of 2 gallons of finished spray per acre by
Dwarf pea	Grasshoppers			air or in a minimum of 10 gallons per acre with ground
Edible-pod pea	Aster			equipment. When applying by air, 1-2 quarts of emulsified oil
English pea	Leafhopper			may be substituted for 1-2 quarts of water in the finished spray.
Garden pea	Leafhoppers			Thorough coverage is essential to achieve control.
Green pea		0.033-0.10	2.1-6.4	
Snow pea	Aphids	0.033-0.10	2.1-0.4	Do not apply more than 0.2 lb active ingredient (12.8 ounces
Sugar snap pea	Beet Armyworm Fall Armyworm			formulated product) per acre per season.
Pigeon pea	Southern		•	
Bean (Phaseolus				Do not apply within 3 days of harvest
spp.):	Armyworm			
Broadbean	Yellowstriped			
(succulent)	Armyworm			
Lima bean	Bean Leaf Beetle			
(green)	Cucumber			
Runner bean	Beetles			
Snap bean		1		
Wax bean	Japanese Beetle (Adult)			
Bean (Vigna spp.):	Sap Beetle		-	
Asparagus bean	Plant Bug			
Blackeyed pea	Stink Bugs			·
Chinese longbean	Tarnished Plant			
Cowpeas	Bug			
Moth bean	Alfalfa			
Southern pea	Caterpillar			·
Yardlong bean	Cloverworm			
Jackbean	European Corn			
Soybean	Borer			
(immature seed)	Cutworms	ļ		
Sword bean	Western Bean	ļ		
	Cutworm		Ţ.	
•	Corn Earworm			
	Loopers	-		
	Corn Rootworm			
	(Adult)			
	Thrips	'		
	Webworms			
	Pea Weevil			
	Pea Leaf Weevil			
	Whitefly			
	Banks Grass	0.08-0.10	5.12-6.4	_
	Mite	0.00-0.10	3.12 0.4	
	Twospotted			
	Spider Mite			
	Carmine Mite		,	
_	Lygus spp.			
	L zygus spp.	<u> </u>	ــــــــــــــــــــــــــــــــــــــ	<del></del>

#### TOMATOES

	TOMATOES			
PEST	DOSAGE	REMARKS AND RESTRICTIONS		
Aphids	2.1-5.2 fluid ounces (0.033-0.08	Apply in water as necessary for insect control		
Armyworms – Including:	pound active) per acre	using a minimum of 15 gallons of finished spray		
Beat Armyworm, Fall	•	per acre with ground equipment.		
Armyworm, Southern				
Yellowstriped Armyworm	· ·	Thorough coverage is essential to achieve		
Bean Leaf Beetle		control.		
Cabbageworm				
Carmine Mite		Do not make applications less than 10 days		
Cloverworm		apart.		
Corn Earworm				
Corn Rootworm		A maximum of 4 applications may be applied		
Cucumber Beetles		per season.		
Cutworms				
Diamondback Moth		Do not apply within 1 day of harvest.		
European Corn Borer				
Flea Beetles				
Flea Hopper				
Grasshopper				
Japanese Beetle (Adult)				
Leafhoppers				
Loopers				
Lygus spp.		·		
Melonworm				
Pea Weevil		·		
Pea Leaf Weevil		·		
Pickleworm				
Plant Bug				
Rindworm				
Salt Marsh Caterpillar				
Sap Beetle	· .			
Seedpod Weevil				
Squash Bugs				
Stink Bug spp.				
Tobacco Budworm				
Tarnished Plant Bug				
Thrips				
Two Spotted Spider Mite				
Whitefly				

#### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of United Phosphorus, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold United Phosphorus and Seller harmless for any claims relating to such factors. United Phosphorus warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or United Phosphorus, and Buyer and User assume the risk of any such use. UNITED PHOSPHORUS MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent allowed by law, United Phosphorus or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF UNITED PHOSPHORUS AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF UNITED PHOSPHORUS OR SELLER, THE REPLACEMENT OF THE PRODUCT.

United Phosphorus and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of United Phosphorus.

Ammo, Capture, Mustang – trademarks of FMC Corporation Ambush, Karate – trademarks of a Syngenta Group Company. Asana – trademark of E.I. duPont de Nemours & Company Baythroid – trademark of Bayer Danitol – trademark of Sumitomo Chemical Company, Ltd. Scout Xtra – trademark of Hoechst Schering Agrevo S.A.

DRAFT 1/28/047/26/2004



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

Dr. Elizabeth Brown Agent for United Phosphorous Inc. 1990 Old Bridge Road, Suite 201 Lake Ridge, VA 22192-2383

JUL 2 1 2004

Subject:

New Product Registration

. Bifenthrin EC Agricultural Insecticide

EPA File Symbol:70506-LT

Your Application Dated January 29, 2004

The product referred to above will be acceptable for registration under FIFRA sec. 3(c)(7) provided that you:

- 1. Agree in writing to the terms and conditions that have been imposed on registrations of similar synthetic pyrethroid pesticide products. Since 1993, the registrations of synthetic pyrethroid products which are labeled for use on agricultural crops such as cotton have been time-limited and conditioned on the generation of additional data due to Agency concerns regarding the toxicity of these products to aquatic organisms. The terms and conditions of registration were stipulated in the Agency's letter to FMC Corporation, dated November 15, 1993, regarding use of the product Capture 2EC Insecticide/Miticide (EPA Reg. No. 279-3069) on cotton. The current time-limited registration for Capture 2EC expires on November 15, 2004. Since your product is similar to FMC's product, your registration will be time-limited and subject to the same conditions and expiration date. You may contact FMC for additional information regarding this matter.
- 2. You have applied for the registration of a product containing the active ingredient bifenthrin. The Agency has recently conditioned the original registration of which you are a follow-on with a new data requirement. This registration will also be conditioned with that data requirement. Accordingly, you must take steps to ensure that these required data are submitted. The steps could include generating and submitting data yourself, or you may offer to share with other registrants the cost of testing.

The data requirement which will be imposed on this registration is as follows:

Title of StudyGuideline Reference No.Study Due DateDevelopmental Neurotoxicity870.6300May 1, 2005

- 3. Submit revised labeling incorporating the following revisions:
- a. Revise the precautionary statements to read as follows: "May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyeware (goggles, face shield or safety glasses). Harmful if absorbed through the skin or inhaled. Avoid breathing spray mist. Avoid contact with skin. Remove and wash contaminated clothing before reuse. Wash throughly with soap and water before eating, drinking, chewing gum or using tobacco.".
- b. Revise rotational crop statements to read: "Crops for which bifenthrin tolerances exist may be rotated at any time. All other crops may be rotated 30 days after the last application.".
- c. Move the spray drift precautions at the bottom of page 8 so they follow Chemigation Use Directions on page 4.

EPA has evaluated the eye study submitted under MRID Number 46183601 and find the test substance severely irritating to the eye. Thus the product has been classified into EPA Toxicity Category II for eye irritation.

EPA Reg. No. <u>"70506-57"</u> is being reserved for this product. You may include the registration number on the revised draft labeling.

Please respond within thirty (30) days from the date of this letter stating your intentions to comply with the information/label requests cited above. If no resubmission is received during this period, the application will be administratively withdrawn.

This letter does <u>not</u> constitute registration, and the product may not be lawfully marketed until it is registered. To expedite handling, please return a copy of this letter with your revised draft labeling. If you have any questions regarding this action, please contact Linda A. DeLuise my team at (703) 305-5428.

Sincerely,

George T. LaRocca Product Manager 13 Insecticide Branch Registration Division (7505C)

#### RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

#### BIFENTHRIN EC AGRICULTURAL INSECTICIDE

#### BIFENTHRIN EC AGRICULTURAL INSECTICIDE IS NOT FOR SALE OR USE IN CALIFORNIA.

This product contains 2 pounds active ingredient per gallon.

# KEEP OUT OF REACH OF CHILDREN WARNING AVISO

This label must be in the possession of the user at the time of application.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

	FIRST AID						
If swallowed	Call poison control center or doctor immediately for treatment advice.						
	Do not induce vomiting unless told to do so by the poison control center or doctor.						
	Do not give any liquid to the person.						
	Do not give anything by mouth to an unconscious person.						
If in eyes	Hold eye open and rinse slowly and gently with water for 15-20 minutes.						
	• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.						
	Call a poison control center or doctor for treatment advice.						
If inhaled	Move person to fresh air.						
	• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably						
	by mouth-to-mouth, if possible.						
	Call a poison control center or doctor for further treatment advice.						
If in eyes	Hold eye open and rinse slowly and gently with water for 15-20 minutes.						
	Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.						
·	Call a poison control center or doctor for treatment advice.						
If on skin or	Take off contaminated clothing.						
clothing	Rinse skin immediately with plenty of water for 15-20 minutes.						
	Call a poison control center or doctor for treatment advice.						

#### NOTE TO PHYSICIAN

This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE, CALL THE NATIONAL PESTICIDE INFORMATION CENTER 1-800-858-7378.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.



Manufactured for: United Phosphorus, Inc.

Bifenthrin EC Agricultural Insecticide MASTER LABEL

EPA Reg. No. 70506-

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<sup>\*</sup>Cis isomers 97% minimum, trans isomers 3% maximum.

<sup>\*\*</sup>Contain xylene range aromatic solvents

EPA Est. No. Net Contents:

# PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals Warning

WARNING. May be fatal if swallowed. Harmful if inhaled, or absorbed through skin or inhaled. Avoid breathing spray mist. Causes moderate eye irritation. Causes substantial but temporary eye injury. Avoid breathing vapor or spray mist. Avoid contact with skin, eyes, or clothing. Do not get in eyes or on clothing. Avoid contact with skin. Wear protective eyewear. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

#### **Personal Protective Equipment:**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions or category E on an EPA chemical resistance category selection chart.

#### Handlers who may be exposed to the dilute through application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, or Nitrile rubber or neoprene rubber or Viton.
- Shoes plus socks

#### Handlers who may be exposed to the concentrate through mixing, loading, application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber, or Viton.
- · Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### USER SAFETY RECOMMENDATIONS

Jsers should

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

#### **Environmental Hazards**

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

#### Physical/Chemical Hazards

Do not use or store near heat or open flame.

#### DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**Resistance:** Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

Bifenthrin EC Agricultural Insecticide MASTER LABEL

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control in your area.

#### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls.
- Chemical-resistant gloves, such as Barrier Laminate or Nitrile Rubber or Neoprene Rubber or Viton.
- · Shoes plus socks.

#### STORAGE AND DISPOSAL

**Pesticide Storage:** Do not freeze. Do not store below 40°F. If crystals are observed, warm material to above 60°F by placing in warm location. Shake or roll container periodically to redissolve solids.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.

**To Confine Spill:** If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Container Disposal: Metal or Plastic Container: Triple rinse (or equivalent), then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

Returnable, Refillable Containers: Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

#### **Chemigation Use Directions**

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

For LEPA irrigation a minimum of 0.75 inch of water per acre is recommended. Where non-emulsified oils are used as the diluent, 1 to 2 pints per acre is recommended.

Results from utilizing chemigation have been variable and depend upon the set up and calibration of equipment. Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. Contact your State Agricultural Extension Service specialists, equipment manufacturers or other experts for consultation on the suitability of the equipment set up to obtain effective control of the target insect pests.

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease application during a mechanical stoppage may result in undesirable residues to adjacent areas.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Bifenthrin EC Agricultural Insecticide should be applied continuously for the duration of the water application. Bifenthrin EC Agricultural Insecticide should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation, a minimum of 0.5 inch per acre of irrigation water is recommended. Agitation generally is not required when a suitable diluent is used. A diluent test should be conducted to ensure that phase separation will not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

#### **Rotational Crops**

Crops for which bifenthrin tolerances exist may be rotated at any time. All other crops may be rotated 30 days following the final application of bifenthrin.

#### Tank-Mixture

Bifenthrin EC Agricultural Insecticide may be applied in tank mixtures with other products approved for use on registered crops.

Observe all restrictions and precautions which appear on the labels of these products. Test for compatibility of products before mixing.

#### **Application Instructions**

Rate of application is variable according to pest pressure, timing of sprays, and field scouting. Use lower rates under light to moderate infestations; higher rates under heavy insect pressure and for mite control. Arid climates generally require higher rates.

Cultivation within 10 feet of a water body is prohibited to allow for the growth of a vegetated filter strip.

In New York State this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

#### **Spray Drift Precautions**

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMANENT STREAMS; MARSHES OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.

Do not apply by ground equipment within 25 feet, or by air within 150 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds. Increase the buffer zone to 450 feet when ultra low volume (ULV) application is made in cotton. Use of ultra low volume (ULV) application on corn and hops is prohibited.

For aerial applications, the spray boom should be mounted on the aircraft so as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of wing span or rotor diameter.

Use the largest droplet size consistent with good pest control. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.

Spray should be released at the lowest height consistent with pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided.

Make aerial or ground applications when the wind velocity favors on target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid applications when wind gusts approach 15 mph.

Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

Do not cultivate within 10 feet of the aquatic areas so as to allow growth of a vegetative filter strip.

Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift to aquatic areas. Avoid spraying-during conditions of low humidity and/or high temperature.

Do not make aerial or ground applications during temperature inversions. Do not make aerial or ground applications to corn if heavy rainfall is imminent. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

#### INDEX TO CROPS LISTED ON THIS LABEL

Artichoke

Brassicas

Caneberries

Canola, Crambe, Rapeseed

Citrus

Cotton

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (At Plant Use)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (PRE & PPI)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (Foliar Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (At Plant Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (Foliar Use)

Cucurbits

Eggplant

Grapes

·Hops

Lettuce, Head

Pears

Peppers, Bell and Non-Bell

Spinach

Succulent Peas and Beans

Tomatoes

## **ARTICHOKE**

	DOSAGE		
PEST	LB AI/A FL OZ/A		REMARKS AND RESTRICTIONS
Cribrate Weevil	0.10	6.4	Apply when pest population reaches damaging threshold and repeat as necessary to
Artichoke Plume			maintain control, but not more often than 15 day intervals.
Moth			
			Application by ground: Apply a full cover spray in a minimum of 75 gallons of
	. •		finished spray per acre.
			·
	•		Application by air: Apply specified dosage in a minimum of 10 gallons per acre.
·			
			Do not exceed 0.5 lb. AI/A per season.
			,
			A 5-day preharvest interval must be observed.
	<u> </u>	<u> </u>	

## BRASSICAS

			DOSAGE		
	CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
7	Head and Stem	Cutworms	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre
	Brassica	Corn Earworm			by air or in a minimum of 10 gallons per acre with ground
	Vegetables	Tobacco			equipment. When applying by air, 1-2 quarts of emulsified
	including:	Budworm			oil may be substituted for 1-2 quarts of water in the finished
	Broccoli	Saltmarsh			spray. Thorough coverage is essential to achieve control.
	Chinese Broccoli	Caterpillar			
	(gai lon, white	Leafhoppers			Do not apply more than 0.5 lb active ingredient (1 quart) per
	flowering	Flea Beetles			acre per season.
ļ	broccoli)	Imported			
	Brussels Sprouts	Cabbageworm			Do not make more than 5 applications after bloom.
Į	Cauliflower	Cucumber			· .
	Cavalo Broccolo	Beetles			Do not make applications less than 7 days apart.
	Kohlrabi	Aphids		!	·
	Cabbage	Whitefly			Do not apply within 7 days of harvest.
.	Chinese Cabbage	Armyworms			·
	(napa)	Loopers			
	Chinese Mustard	Stink Bugs .			
	Cabbage (gai	Crickets			• •
	choy)	Ground Beetles			
		Thrips			,
		Wireworm			
		(Adults)			
		Diamondback		l	99 - 2
		Moth			·
		Banks Grass	0.08-0.10	5.12-6.4	
		Mite			
		Twospotted			
		Spider Mite			
		Pacific Spider			
		Mite			
		Carmine Mite			
Į		Lygus spp.			·

## **CANEBERRIES**

	DOSA	GE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Leafrollers	0.05-0.10	3.2-6.4	Apply by air or ground equipment using sufficient water to
Orange Tortrix			obtain full coverage of foliage (minimum of 10 gallons per
Root Weevils			acre by air and 50 gallons per acre by ground).
			·
	,		One application may be made pre-bloom and a second
	•	-	application may be made post bloom.
,			Do not exceed 0.2 lb. AI/A per season.
.			Do not apply within 3 days of harvest.
			· ·
Spider Mites	, 0.10	6.4	
·	•		
			·
	Leafrollers Orange Tortrix Root Weevils	PEST LB AI/A  Leafrollers 0.05-0.10  Orange Tortrix Root Weevils	Leafrollers Orange Tortrix Root Weevils  0.05-0.10 3.2-6.4

## CANOLA, CRAMBE, RAPESEED

	DOSAGE		
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.04	2.1-2.6	Apply in a minimum of 2 gallons of finished spray per acre by air or in a
Cutworms	'		minimum of 10 gallons per acre with ground equipment. When applying
Diamondback			by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of
Moth		•	water in the finished spray. Thorough coverage is essential to achieve
Loopers			control.
Other			
Lepidopterous			Do not apply more than 0.08 lb active ingredient (5.12 ounces formulated
Larvae			product) per acre per season. Do not make applications less than 14 days
Flea Beetle			apart.
Flea Hopper			
Grasshopper			Do not apply within 35 days of harvest.
Plant Bug			·
Stink Bugs			
Seedpod Weevil			Comp.
Thrips			
Whitefly			
Armyworms			

## CITRUS

PEST	DOSAGE	REMARKS AND RESTRICTIONS
Diaprepes Root	16-32 ounces (0.25-0.50 pound	Apply to individual citrus resets, when not in solid
Weevil (Diaprepes abbreviatus)	active) per acre	planted rows, using hand-gun or shielded sprayer.
Fire Ants		Peak emergence of Diaprepes root weevil
Asian Cockroach		generally occurs in the spring. Depending on
		weather conditions, a minor emergence of
	•	Diaprepes root weevil may also occur in the fall.
•		
		If the citrus grove to be treated is in an area where
		weather conditions are conducive to primary
	·	emergence occurring in the spring, 32 fluid ounces
<u> </u>		formulated product should be used to obtain the
İ	·	longest residual management of Diaprepes root
		weevil.
		·
		If the citrus grove to be treated is in an area where
		weather conditions will promote more than one
N		peak of pest emergence, 16 fluid ounces
		formulated product can be applied early season
		and 16 fluid ounces formulated product can be
		applied later in the season.
	•	If emergence extends beyond the residual
		protection of Bifenthrin EC, grower is advised to
		use additional management strategies (i.e. foliar
	,	adult control or soil larvae control such as
		nematodes). Contact your state agricultural
		Extension Specialist as to the recommendation
·		suited for local conditions.
	•	Do not apply through irrigation systems.
		Do not allow any application of Bifenthrin EC to
	-	contact fruit or foliage.
	•	Do not apply more than a total of 32 fluid ounces
		of formulated product (0.5 lb. a.i.) per acre per
		year.
	·	Apply the specified dosage in a minimum of 30
		gallons of finished spray per acre.
·		Ground application only. Do not apply by air.
		212 argument omj. Do not apprij by uni
		Do not apply within 1 day of harvest.

## COTTON

	DOS	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
European Corn Borer	0.02-0.10	1.3-6.4	Bifenthrin EC may be applied in water or refined
Soybean (Banded) Thrips			vegetable oil (soybean/cottonseed).
Tobacco Thrips			
			Application in Water: Apply in a minimum of 5
			gallons per acre with ground equipment or 1 gallon
			per acre by aircraft. When applying by air, 1 quart of
			emulsified oil may be substituted for one quart of
·			water in the finished spray.
Boll Weevil	0.04-0.10	2.6-6.4	
Bollworm	0.04 0.10	2.0-0.4	ULV Application: Apply the recommended rate of
Cabbage Looper			Bifenthrin EC in refined vegetable oil in a minimum
Cotton Aphid			of 1 quart of finished spray per acre with aircraft
Cotton Fleahopper		1	calibrated to give adequate coverage.
Cotton Leafperforator		,	can braice to give adequate coverage.
Cutworms			To Control Boll Weevil: Apply Bifenthrin EC at an
Fall Armyworm			interval of 3 to 4 days until pest numbers are reduced
Plant Bugs			to acceptable levels.
Saltmarsh Caterpillar			
Southern Garden Leafhopper	•		To Control Mites and Aphids: Apply when pests
Stink Bugs			first appear. Repeat as necessary to maintain control.
Tobacco Budworm			Higher rates will be required once a damaging
Whitefly			threshold is established.
Yellow Striped Armyworm	·		
Beet Armyworm	0.06-0.10	3.8-6.4	Do not apply more than 0.5 pound active ingredient
Carmine Spider Mite			per acre per season.
Lygus spp.			
Pink Bollworm			Do not make more than 10 synthetic pyrethroid
Twospotted Spider Mite		}	applications (of one product or combination of
			products) to a cotton crop in one growing season.
			Synthetic pyrethroid products include Ambush®,
			Ammo <sup>®</sup> , Asana <sup>®</sup> XL, Baythroid <sup>®</sup> , Capture <sup>®</sup> ,
•			Danitol <sup>®</sup> , Karate <sup>®</sup> , Mustang <sup>®</sup> , and Scout X-TRA <sup>®</sup> .
· ·		·	Do not graze livestock in treated areas or cut treated
			crops for feed.
		<u> </u>	Do not apply within 14 days of harvest.

## FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (AT PLANT USE)

PEST	DOS	AGE		REN	MARKS AND	RESTRICTIO	NS	
Corn Rootworm, Larvae	0.0046	0.30	Apply as a :	5 to 7 inch T-b	and treatment of	over an open see	ed furrow. Position the	
Northern	lb AI	fluid	spray nozzlo	spray nozzle behind the planter shoe, in front of the press wheel centered over the				
Southern	per	ounces	row. Use the table below to determine the Bifenthrin EC needs per acre. Apply					
Western	1,000	per	in a minimu	ım of 3 gallons	of finished spr	ray per acre.		
•	linear	1,000						
	feet of	linear	Mix Bifenthrin EC with water or fertilizer in the following manner. Fill the sp					
	row	feet of	tank approx	imately.one-ha	alf full with wa	ter or liquid fert	ilizer, add the proper	
		row	amount of E	Bifenthrin EC t	hen add the res	t of the water or	r fertilizer. Provide	
		,	sufficient agitation during mixing and application to maintain a uniform spray					
			mixture.					
Army Cutworm	0.0023	0.15 to				-		
Cutworm Species	to `	0.30					tank mixtures, in	
Grubs	0.0046	fluid	_			-	d. A jar compatibility	
Seed Corn Beetle	lb AI	ounces	1	-	• • •		hrin EC and fertilizer to	
Seed Corn Maggot	per	per	1	, ,		istant agitation s	should be maintained	
True Armyworm or	1,000	1,000	during mixi	ng and applica	ition.			
Armyworm Species	linear	linear				4		
Wireworm	feet of	feet of		y to soil where	there is greate	r than 30% cove	er of crop residue	
	row	row	remaining.		•			
			Do not graz		treated area or o	cut treated crops	s for feed within 30 days	
			Do not apply more than 0.1 pound active per acre per season as an at plant application.					
_			Do not appl	y within 30 da	ys of harvest.			
Row Spacings (inches)				40	38	36	30	
Bifenthrin EC Agricultural I	nsecticide (p	ounds ai pe	er acre)	0.060	0.064	0.069	0.080	
Bifenthrin EC Agricultural In	Bifenthrin EC Agricultural Insecticide (formulated product,			3.9	4.1	4.4	5.12	
ounces per acre)								

## FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (PRE & PPI)

PEST	DOS	AGE	REMARKS AND RESTRICTIONS
Black Cutworm	0.047 to	3 to 4 fl.	The 3-4 oz./A rate must be applied as PPI and can be tankmixed and
White Grub	0.062 pound	oz./A Pre-	applied with PPI herbicides. Incorporation of Bifenthrin EC should not be
Wireworm	AI/A Pre-	Plant	any deeper than the intended planting depth and no deeper than 3 inches.
Seedcorn Maggot	Plant	Incorporated	Incorporation depth should be close to the intended seed planting depth.
Armyworm spp.	Incorporated	(PPI)	
Stalkborer	(PPI)		
Black Cutworm	0.040 LB	2.56 FL.	The 2.56 oz/A rate may be applied PRE and can be tankmixed and applied
Armyworm spp.	AI/A Pre-	OZ./A Pre-	with PRE herbicides.
Stalkborer	emergence	emergence	
	(PRE)	(PRE)	

## FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (FOLIAR USE)

	DOSAGE		
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.10	2.1-6.4	Apply in a minimum of 2-5 gallons of finished spray per acre by
Army Cutworm			aircraft or in a minimum of 10 gallons per acre with ground
Beet Armyworm			equipment. To improve control by aircraft, use 5 gallons of
Cereal Leaf Beetle			finished spray per acre particularly when initial populations are
Chinch Bug			heavier than normal. When applying by air, 1-2 quarts of
Common Stalk Borer			emulsified oil may be substituted for 1-2 quarts of water in the
Corn Earworm	-	•	finished spray. Thorough coverage is essential to achieve control.
Corn Rootworm Adults			•
Cucumber Beetle Adult	,		To Control Ear-Attacking Pests: Apply Bifenthrin EC just
Cutworm Species			before silking and repeat as necessary to maintain control.
European Corn Borer		•	
Fall Armyworm			Southwestern Corn Borer, European Corn Borer: Make
Flea Beetle			application for corn borer control with initial application at or
Grasshoppers			shortly before egg hatch.
Greenbug			
Japanese Beetle Adult			For Control of Other Insect Pests: Apply when pests first
Sap Beetle	,		appear and repeat as necessary.
Southern Armyworm			
Southern Corn Leaf Beetle			For Control of Mites: Apply for Banks Grass Mite control when
Southwestern Corn Borer			colonies first form prior to leaf damage or discoloration and before
Stinkbugs			dispersal above the bottom third of the plant.
Tarnished Plant Bug			
True Armyworm or			For Twospotted Spider Mite and Carmine Mite Control: Apply
Armyworm			when colonies first form prior to leaf damage or discoloration and
Species			before wide-spread mite dispersal throughout the canopy.
Webworms			
Western Bean Cutworm			Higher rates will be necessary for heavier initial populations and
Yellowstriped Armyworm			corn under heat or drought stress. Field experience with
		·	dimethoate at 0.5 lb active per acre in tank mixture has
			demonstrated good control under these conditions.
		·	
Banks Grass Mite	0.08-0.10	5.12-6.4	For Mite Control in Texas, New Mexico, Oklahoma, and
Carmine Mite			Arizona: Apply in a minimum of 5 gallons of finished spray per
Twospotted Spider Mite			acre by aircraft or in a minimum of 10 gallons per acre with
			ground equipment.
			Do not apply more than 0.3 pound active per acre per season
·			including pre & ppi, at plant plus foliar applications.
•			
			Do not graze livestock in treated areas or cut treated crops for feed
			within 30 days of the last application.
			Use of ultra low volume (ULV) application on corn is prohibited.
			Do not make aerial or ground applications to corn if heavy rainfall
	-		is imminent.
-		•	
			Use of Bifenthrin EC Agricultural Insecticide on corn is prohibited
			in all coastal counties.
			Do not analy within 20 days of heaves
			Do not apply within 30 days of harvest.

## SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (AT PLANT USE)

PEST	AGE		REMARKS AND RESTRICTIONS					
Corn Rootworm, Larvae Northern Southern Western	0.0046 pound active per 1,000 linear feet of row	0.30 fluid ounces per 1,000 linear feet of row	spray nozzl row. Use t in a minima Mix Bifent tank appro- amount of	Apply as a 5 to 7 inch T-band treatment over an open seed furrow. Position the spray nozzle behind the planter shoe, in front of the press wheel centered over the row. Use the table below to determine the Bifenthrin EC needs per acre. Apply in a minimum of 3 gallons of finished spray per acre.  Mix Bifenthrin EC with water or fertilizer in the following manner. Fill the spray ank approximately one-half full with water or liquid fertilizer, add the proper amount of Bifenthrin EC then add the rest of the water or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture.				
Army Cutworm Cutworm Species Grubs Seed Corn Beetle Seed Corn Maggot True Armyworm or Armyworm Species Wireworm	0.0023 to 0.0046 pound active per 1,000 linear feet of	0.15 to 0.30 fluid ounces per 1,000 linear feet of row	Applications of Bifenthrin EC alone or in recommended tank mixtures, in conjunction with in furrow pop-up fertilizers may be used. A jar compatibility test should be performed with appropriate ratio of Bifenthrin EC and fertilizer to ensure mixture will stay in solution. Constant agitation should be maintained during mixing and application.					
	row		Do not apply within 30 days of harvest.  Do not graze livestock in treated area or cut treated crops for feed within 30 days of treatment.  Do not apply more than 0.1 pound active per acre per season as an at plant application.					
Row Spacings (inches		·	T. E.	40	38	36	30	
Bifenthrin EC (pounds ai pe	er acre)			0.060	0.064	0.069	0.080	
Bifenthrin EC (formulated	Bifenthrin EC (formulated ounces per acre)			3.9	4.1	4.4	5.12	

## SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (FOLIAR USE)

	DOSA	GE		
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS	
Aphids	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per	
Army Cutworm	0.000		acre by air or in a minimum of 10 gallons per acre with	
Beet Armyworm		•	ground equipment. When applying by air, 1-2 quarts of	
Cereal Leaf Beetle			emulsified oil may be substituted for 1-2 quarts of water	
Chinch Bug			in the finished spray. Thorough coverage is essential to	
Common Stalk Borer		1	achieve control.	
Corn Earworm			demote control.	
Corn Rootworm Adults			To Control Ear-Attacking Pests: Apply Bifenthrin EC	
Cucumber Beetle Adult			when silking begins and repeat as necessary to maintain	
Cutworm Species			control.	
European Corn Borer	*		· ·	
Fall Armyworm			Southwestern Corn Borer, European Corn Borer:	
Flea Beetle			Make 2 applications for corn borer control with the initial	
Grasshoppers			application at or shortly before egg hatch.	
Greenbug			application at or shortly before egg naten.	
Japanese Beetle Adult			For Control of Other Insect Pests: Apply when pests	
Sap Beetle			first appear and repeat as necessary.	
Southern Armyworm			inst appear and repeat as necessary.	
Southern Corn Leaf Beetle			For Control of Mites: Apply for Banks Grass Mites	
Southwestern Corn Borer			control when colonies first form from prior to leaf	
Stinkbugs			damage or discoloration and before dispersal above the	
Tarnished Plant Bug			bottom third of the plant.	
True Armyworm or Armyworm Species				
Webworms	•		For Twospotted Spider Mite and Carmine Mite Control:	
Western Bean Cutworm		1	Apply when colonies first form prior to leaf damage or	
Yellowstriped Armyworm			discoloration and before widespread mite dispersal	
1 chowshiped 7 king worm			throughout the canopy.	
		-	unoughout the canopy.	
Banks Grass Mite	0.08-0.10	5.12-6.4	Higher rates will be necessary for heavier initial	
Carmine Mite	0.08-0.10	3.12-0.4	populations and corn under heat or drought stress.	
Twospotted Spider Mite	٠.		populations and communication drought sucess.	
1 wosponed Spider Wite	•		Do not make more than 0.2 pounds active ingredient	
			(12.8 ounces formulated product) per acre per season.	
			(12.6 ounces formulated product) per acre per season.	
·			Do not graze livestock in treated areas of cut treated crops	
:			for feed within 1 day of the last application.	
			for feed within I day of the fast application.	
			Use of ultra low volume (ULV) application on corn is	
•			prohibited.	
			promoned.	
			Do not make aerial or ground applications to corn of	
,			heavy rainfall is imminent.	
			neavy rainfair is minimient.	
			Use of Bifenthrin EC on corn is prohibited in all coastal	
	,		•	
`			counties.	
	*		Do not omniv within 1 day of homest	
		L	Do not apply within 1 day of harvest.	

## **CUCURBITS**

		DOSA	GE	
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Chayote (fruit)	Aphids	0.04-0.10	2.6-6.4	Apply in a minimum of 5 gallons of finished spray
Chinese waxgourd	Cutworm			per acre by air or in a minimum of 20 gallons per
(Chinese preserving	Cabbage Looper			acre with ground equipment. When applying by
melon)	Leafhoppers			air, 1-2 quarts of emulsified oil many be substituted
Citron melon	Cucumber Beetles			for 1-2 quarts of water in the finished spray.
Cucumber	Squash Bugs			Thorough coverage is essential to achieve control.
Gherkin	Melonworm		1	increase is essential to demonstrate
Gourd, edible	Pickleworm			Do not apply more than 0.3 lb active ingredient
(includes hyloan,	Plant Bug			(19.2 ounces formulated product) per acre per
cucuzza), (Luffa	Stink Bugs			season.
spp.) (includes	Rindworm			scason.
hechima, Chinese				Do not make more than two applications often
	Squash Vine Borer			Do not make more than two applications after
okra), (Momordica	Armyworms			bloom.
spp.) (includes	Corn Earworm			
balsam apple,	Tobacco Budworm	1	į	Do not make applications less than 7 days apart.
balsam pear, bitter	Grasshopper			
melon, Chinese				Do not apply within 3 days of harvest.
cucumber)				
Muskmelon (hybrids	,			
and/or cultivars	•			
of Cucumis melo)				
(includes		0.08-0.10	5.12-6.4	
true cantaloupe,	Whitefly		ļ	·
cantaloupe	Banks Grass Mite			
casaba, crenshaw	Twospotted Spider			
melon, golden,	Mite			
pershaw melon,	Carmine Mite		!	
honeydew melon,	Lygus spp.			
honey balls, mango		i		
melon, Persian				
melon, pineapple		·	ļ	
melon, Santa				
Claus melon, and				
snake melon)			'	·
Pumpkin (Cucurbita spp.)				
Squash, summer				
(includes crookneck				
squash, scallop	,			
squash, straightneck	,			
squash, vegetable				
marrow, zucchini)				
Squash, winter		-		
(includes butternut				·
squash, calabaza,	*.			
hubbard squash				
(C. mixte; C. pepo),	*			
includes acorn	,			
squash, spaghetti				
squash)				
Watermelon,	,			,
(includes hybrids and				
or varieties of Citrullis		.,		
*				
spp.)	L			<u> </u>

## **EGGPLANT**

	DOSAGE		
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Colorado Potato Beetle	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre by air or in a
Corn Earworm			minimum of 10 gallons per acre with ground equipment. When applying by
European Corn Borer			air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in
Flea Beetle			the finished spray. Thorough coverage is essential to achieve control.
Cabbage Looper			
Cucumber Beetle			Do not make applications less than 7 days apart.
Tomato Pinworm		•	
Tomato Hornworm			Do not apply more than 0.2 lb active ingredient (12.8 ounces formulated
Vegetable Leafminer			product) per acre per season.
Whitefly			
Armyworms			Do not apply within 7 days of harvest.
Plant Bug			·
Stink Bug			•
Thrips			
	,		·
Banks Grass Mite	0.08-0.10	5.12-6.4	<del>-</del>
Twospotted Spider	0.00 0.10		
Mite			
Carmine Mite			·
Pacific Spider Mite			,
Lygus spp.			

## **GRAPES**

	DOS	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Eastern Grape	0.05 to 0.10	3.2 to 6.4	Apply in a minimum of 10 gallons of finished spray by air or
<u>Leafhopper</u>			in a minimum of 25 gallons of finished spray with ground
Variegated Leafhopper			equipment.
Western Grape	`		When applying by air, 1 to
<u>Leafhopper</u>			2 quarts of emulsified oil may be substituted for 1 to 2 quarts
			of water in the finished spray.
Black Vine Weevil	0.10	<u>6.4</u>	Thorough coverage is essential to achieve control.
Glasywinged			When pest pressure is moderate to severe, use higher rate.
<u>Sharpshooter</u>			Do not apply more than 0.10 lb ai per acre per season.
Twospotted Spider			Do not apply within 30 days of harvest.
Mite			

## HOPS

,	DO	SAGE			
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS		
Aphids	0.06-0.1	3.8-6.4	Do not exceed 0.1 lb ai per acre <b>per application</b> .		
Armyworms			Do not exceed 0.3 lb ai per acre <b>per season</b> .		
Cutworms					
Leafrollers			A spray interval of 21 days between applications must be maintained.		
Loopers					
Root Weevils	0.05-0.1	3.2-6.4	A 14 day pre-harvest interval must be observed.		
•					

Twospotted spider mite	0.1	6.4	Application by ground: For best results, full coverage is essential. Early season recommend 100-150 gallons of spray per acre. Late season recommend 200-250 gallons of spray per acre.
			For Root-Weevil control, make a directed spray to the base of the plant. Spray up the vine 3 feet and the soil surface 1.5 to 2 feet on either side of the plant.
			Application by air for late season control of twospotted spider mites: Apply no less than 6.4 oz (0.1 lb ai) per application in a minimum of 10 gallons per acre.
			Use of ultra low volume (ULV) application on hops is prohibited.

## LETTUCE, HEAD

	DOSAGE		
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.10	2.1-6.4	Apply in water as necessary for insect control using a minimum of 15
Armyworms			gallons of finished spray per acre with ground equipment and 5 gallons per
Corn Earworm			acre by air. When applying by air, 1-2 quarts of emulsified oil may be
Cucumber Beetles			substituted for 1-2 quarts of water in the finished spray. Thorough coverage
Cutworms			is essential to achieve control.
Diamondback Moth	•		
Flea Beetles			Do not make applications less than 7 days apart.
Imported	1		
Cabbageworm			A maximum of 0.5 lb active ingredient may be applied per acre per season.
Leafhoppers			
Loopers			Do not apply within 7 days of harvest.
Salt Marsh Caterpillar			· ·
Stink Bug spp.	,		•
Tobacco Budworm			
Whitefly			
I same ann	0.08-0.10	5.12-6.4	
Lygus, spp. Carmine Mite	0.08-0.10	5.12-0.4	
			·
Twospotted Spider			
Mite			

## **PEARS**

	DOS	AGE			
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS		
Aphids	0.04 to 0.2	2.6 to 12.8	Application by ground: Apply as a dilute (minimum of 200 gallons of finished		
Coddling Moth	•		spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre)		
Cutworms			spray in sufficient water to provide thorough coverage.		
Green					
Fruitworm			Application by air: Apply the specified dosage in a minimum of 10 gallons per		
Leafhoppers			acre by air.		
Leafminers					
Leafrollers			Do not apply more than 0.5 pound active per acre per season with no more than		
Lygus spp.			0.45 pound active per acre applied after petal fall.		

Plant Bugs			
Plum Curculio			Apply as necessary to maintain control using a minimum of 30 day spray
San Jose			interval.
Scale (Crawlers)			
Stink Bugs			Do not graze livestock in treated orchards or cut treated cover crops for feed.
Tarnished			
Plant Bugs			,
Twospotted Spider	0.06 to 0.2	8.8 to 12.8	Apply up to 14 days prior to harvest.
Mite			
Yellow Mite			,
European Red Mite	0.08 to 0.2	5.12 to 12.8	

## PEPPERS, BELL AND NON-BELL

	DOSA	<b>GE</b>	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Armyworms	0.033-0.1	2.1-6.4	Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply
Corn Earworm		,	with ground equipment using a minimum of 10 gallons of finished spray per acre or
Cucumber Beetles			a minimum of 2 gallons per acre by aircraft.
Cutworms			
European Corn	·		Do not make applications less than 7 days apart.
Borer	•		
Flea Beetles			Do not apply more than 0.20 pound active ingredient per acre per season.
Leafminers			
Loopers			Do not apply within 7 days of harvest.
Pepper Weevil			
Thrips			
Whitefly			
Lygus spp.	0.8-0.10	5.12-6.4	
Broad Mite		,	
Carmine Mite			
Twospotted Spider			
Mite		,	
·		`	·

## **SPINACH**

PESTS	DOSAGE	REMARKS AND RESTRICTIONS
Colorado Potato Beetle	2.1 to 6.4 ounces (0.033 to	For control of whiteflies apply foliar treatments of Bifenthrin EC by
Tomato Pinworm	0.10 pound active) per acre	ground or air at rates of up to 0.4 pt. (0.1 lb active) per acre at minimum
Tomato Hornworm	•	7-day intervals up to a maximum of 4 applications.
Armyworms		
Corn Earworm	· ·	For control of fire ants apply Bifenthrin EC to the soil (at planting) or as a
Cucumber Beetles		foliar treatment by ground or air at rates of up to 0.4 pt. (0.1 lb active) per
Cutworms		acre at minimum 7-day intervals up to a maximum of 4 applications.
European Corn Borer		
Flea Beetles		Apply the specified dosage in 5-50 gallons of finished spray per acre by
Leafminers		air or 10-50 gallons of finished spray per acre by ground.
Loopers		,
Pepper Weevil		Do not make applications less than 7 days apart.
Thrips		
Whitefly		
Broad Mite	5.12 to 6.4 ounces (0.08 to	Do not apply more than 0.4 pounds active ingredient per acre per season.
Banks Grass Mite	0.10 pound active) per acre	
Twospotted Spider Mite		Do not apply within 40 days of harvest.
Carmine Mite		
Pacific Spider Mite		
Lygus spp.		•
Fire Ants		•

## SUCCULENT PEAS AND BEANS

	1	DOSAGE			
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS	
Pea (Pisum spp.)	Flea Beetle	0.025-0.10	1.6-6.4	Apply in a minimum of 2 gallons of finished spray per acre by	
Dwarf pea	Grasshoppers			air or in a minimum of 10 gallons per acre with ground	
Edible-pod pea	Aster			equipment. When applying by air, 1-2 quarts of emulsified oil	
English pea	Leafhopper			may be substituted for 1-2 quarts of water in the finished spray.	
Garden pea	Leafhoppers			Thorough coverage is essential to achieve control.	
Green pea	Aphids	0.033-0.10	2.1-6.4		
Snow pea	Beet Armyworm	0.033-0.10	2.1 0.4	Do not apply more than 0.2 lb active ingredient (12.8 ounces	
Sugar snap pea	Fall Armyworm			formulated product) per acre per season.	
Pigeon pea	Southern				
Bean (Phaseolus	Armyworm			Do not apply within 3 days of harvest	
spp.):	Yellowstriped				
Broadbean	Armyworm			•	
(succulent)	Bean Leaf				
Lima bean	Beetle				
(green)	Cucumber				
Runner bean	Beetles	· . ·			
Snap bean	Japanese Beetle				
Wax bean	(Adult)				
Bean (Vigna spp.):	Sap Beetle		,		
Asparagus bean	Plant Bug				
Blackeyed pea	Stink Bugs			·	
Chinese longbean	Tarnished Plant			•	
Cowpeas	Bug				
Moth bean	Alfalfa ·				
Southern pea	Caterpillar				
Yardlong bean	Cloverworm	ļ			
Jackbean	European Corn				
Soybean	Borer				
(immature seed)	Cutworms				
Sword bean	Western Bean				
	Cutworm	ļ.		·	
	Corn Earworm				
	Loopers				
	Corn Rootworm				
	(Adult)				
	Thrips				
	Webworms				
	Pea Weevil		}		
,	Pea Leaf Weevil		:		
	Whitefly				
	Banks Grass	0.08-0.10	5.12-6.4		
	Mite	5.00 5.10	3.12 3.1		
	Twospotted				
	Spider Mite				
	Carmine Mite				
	Lygus spp.				

#### TOMATOES

	TOMATOES	
PEST	DOSAGE	REMARKS AND RESTRICTIONS
Aphids	2.1-5.2 fluid ounces (0.033-0.08	Apply in water as necessary for insect control
Armyworms – Including:	pound active) per acre	using a minimum of 15 gallons of finished spray
Beat Armyworm, Fall		per acre with ground equipment.
Armyworm, Southern		•
Yellowstriped Armyworm		Thorough coverage is essential to achieve
Bean Leaf Beetle		control.
Cabbageworm		
Carmine Mite		Do not make applications less than 10 days
Cloverworm	•	apart.
Corn Earworm		
Corn Rootworm		A maximum of 4 applications may be applied
Cucumber Beetles		per season.
Cutworms		
Diamondback Moth		Do not apply within 1 day of harvest.
European Corn Borer		
Flea Beetles		
Flea Hopper	· ·	* *
Grasshopper		1
Japanese Beetle (Adult)		,
Leafhoppers		• •
Loopers	·	
Lygus spp.		
Melonworm		
Pea Weevil		
Pea Leaf Weevil		
Pickleworm		·
Plant Bug	2	
Rindworm	^·	
Salt Marsh Caterpillar		· .
Sap Beetle		
Seedpod Weevil	·	
Squash Bugs		
Stink Bug spp.		
Tobacco Budworm		
Tarnished Plant Bug		
Thrips		1
Two Spotted Spider Mite		
Whitefly		

#### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of United Phosphorus, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold United Phosphorus and Seller harmless for any claims relating to such factors. United Phosphorus warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or United Phosphorus, and Buyer and User assume the risk of any such use. UNITED PHOSPHORUS MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall To the extent allowed by law. United Phosphorus or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF UNITED PHOSPHORUS AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF UNITED PHOSPHORUS OR SELLER, THE REPLACEMENT OF THE PRODUCT.

United Phosphorus and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of United Phosphorus.

Ammo, Capture, Mustang – trademarks of FMC Corporation Ambush, Karate – trademarks of a Syngenta Group Company. Asana – trademark of E.I. duPont de Nemours & Company Baythroid – trademark of Bayer Danitol – trademark of Sumitomo Chemical Company, Ltd. Scout Xtra – trademark of Hoechst Schering Agrevo S.A.

DRAFT <del>10/02/03</del>1/28/04

# Can be used for 20506-LT



## UNITED STATES ENVIRONMENTAL PROTECTION AGEN WASHINGTON, D.C. 20460

#### OFFICE OF PREVENTION, PESTICIDE AND TOXIC SUBSTANCES TECHNICAL REVIEW BRANCH

08/APR/2004

#### **MEMORANDUM**

Subject:

Name of Pesticide Product:

Bifenthrin EC-CA Agricultural Insecticide

EPA Reg. No. /File Symbol: 70506-LI

DP Barcode:

D298928

Decision No:

334563

PC Code:

128825

From:

Masih Hashim, Toxicologist

Technical Review Branch

Registration Division (7505C)

To:

Linda Deluise, PM Team 03

Insecticide Branch

Registration Division (7505C)

Applicant:

United Phosphorus, Inc.

423 Riverview Plaza

Trenton, NJ 08611

#### FORMULATION FROM LABEL:

Bifenthrin 25%. This is the only common active ingredient in two products.

ACTION REQUESTED: Similarity action for #70506-LI and #70506-57.

RECOMMENDATIONS: TRB has evaluated the proposed (70506-LI) and the cited (70506-57) products, and found them to be substantially similar. The data can be bridged between them. The Signal Word is Warning.

We have also evaluated the eye study for the product, as requested. The study is acceptable and has Toxicity category II. The product is severely irritating to the eyes.

This memorandum pertains only to the decision concerning whether the subject product is substantially similar to the cited product from an acute toxicological view point. For the purposes of this action, TRB has made no determinations of the adequacy of the toxicological data base or the precautionary label of the cited product.

Reviewer: M. Hashim Date: 08/April/2004

Product Manager (EPA): 03

**STUDY TYPE:** Primary Eye Irritation-NZW Rabbits, OPPTS 870.2400; OECD 405, Clear light yellow liquid.

**TEST MATERIAL:** Bifenthrin 25.8%, Solution in water, Lot #5654-40-15.

**SYNONYMS**: DXP-B-2213-A

**CITATION:** Merkel, D. (2004). Primary Eye Irritation Study in Rabbits. Product Safety Labs.

Dayton, New Jersey 08810. Study No. 14814, dated 1-27-04, MRID 46183601.

**SPONSOR:** United Phosphorus Limited, Trenton, NJ 08611

**EXECUTIVE SUMMARY:** Primary eye irritation potential of Bifenthrin (25%) was tested in a study in 3 NZW rabbits (MRID 46183601). The test substance (0.1 g) was instilled into the conjunctival sac of one eye of each of 3 rabbits (Source: Robinson Services, Clemmons, NC). The other eye served as the control. Ocular irritation was evaluated for 10 days.

Ocular irritation subsided within 10 days (Table 1). In this study the test substance is a severe irritant to the rabbit eyes. The test substance has EPA Toxicity Category II.

This study is classified as Acceptable. It does satisfy the guideline requirement for a primary eye irritation study (OPPTS 870.2400; OECD 405) in the rabbit.

**<u>COMPLIANCE</u>**: Signed and dated GLP, Quality Assurance, and Data Confidentiality statements were provided.

## RESULTS AND DISCUSSION:

Table 1. No of Animals affected / Total No. of animals

Lesion	1 hr	24 hrs	48 hrs	72 hrs	day 4	day 7	day 10
corneal opacity	3/3	3/3	3/3	3/3	3/3	2/3	0/3
iritis	3/3	3/3	3/3	1/3	0/3	0/3	0/3
conjunctivitis	3/3	3/3	3/3	3/3	3/3	2/3	0/3

Note: A score of 2 is positive for conjunctiva.

**A.** <u>Observations</u> - (Table 1) Ocular irritation subsided within ten days. The product is a severe irritant, EPA Category II.

B. Reviewer's Conclusions: The Reviewer agrees with the Study Author's conclusion.

C. <u>Deficiencies</u>: None.

TOX One Liner D298928 Bifenthrin 25% Date 08/April/2004

Study /species/ lab/ No./ date	MRID#	Results	Tox Category	Core Grade
primary eye irritation/ rabbit/ Product Safety/ 14814/1-27- 04	46183601	severe irritant	II	А

**DATE OUT: 28/ JUNE/ 2004** 

SUBJECT: PRODUCT CHEMISTRY REVIEW OF MP[] EP[X]

> DP BARCODE No.:304200 File Symbol No.: 70506-LT PRODUCT NAME: Bifenthrin EC Agricultural Insecticide

COMPANY: United Phosphorus Inc.

FOOD USE [X] INTEGRATED FORMULATION []

PCC: 128825 Decision No. 334427

FROM: Debra Rate

**Product Chemistry Team** 

Technical Review Branch/RD (7505C)

SRn 6.29-04 Debra M. Fat 6/29/04 Linda DeLuise / George Larocca, RM 13 TO:

Insecticide Branch/RD(7505C)

#### INTRODUCTION:

The registrant has resubmitted a CSF (dated 09/19/03) and MRID No.461836-00 in support of the registration application for the proposed end-use product in response to Agency letter dated 06/03/04. The product chemistry data were previously submitted under MRID No. 460927-01 and 460927-02. The proposed end-use product has Bifenthrin (Reg. No. 70506-18, 99.4%) as its active ingredient. TRB has been asked to evaluate the MSDS for an inert ingredient used in the formulation of the end-use product to obtain clearance.

#### SUMMARY OF FINDINGS

- 1. The proposed end-use product contains Bifenthrin (Reg. No. 70506-18, 99.4%) as its active ingredient (AI) with product label claim of 25.1%.
- 2. The CSF for basic formulation (dated 09/19/03) is filled out completely and correctly. The nominal concentrations of the AI concurs with the product label claim and is in compliance with PR Notice 91-2. All of the inert ingredients present in the formulation have been cleared by the Agency. The data submitted corresponding to the guideline reference 830.1550 (product identity & composition) and 830.1750 (certified limits) satisfy the data requirements of 40CFR§158.155 and 158.175, respectively.
- 3. The data submitted corresponding to the guideline reference series 830 Subgroup A were previously accepted.
- 4. The data submitted corresponding to 830 Series Subgroup B (physical-chemical properties) were previously determined to satisfy the data requirements of 40CFR§158.190, except for storage stability (830.6317) and corrosion characteristics (830.6320). [MRID No. 460927-02]
- 5. The registrant has stated that the long term studies on storage stability (830.6317) and corrosion characteristics (830.6320) are in progress and the results will be submitted on completion.

BARCODE No.:304199 File Symbol No.: 70506-LT PRODUCT NAME: Bifenthrin EC Agricultural Insecticide

#### **CONCLUSIONS:**

- 1. The product chemistry data submitted corresponding to 830 Series Subgroup A are acceptable.
- 2. With the identity and composition of the previously uncleared inert ingredient, the CSF for basic formulation (dated 09/12/03) is now acceptable.
- 3. The product chemistry data submitted corresponding to 830 Series Subgroup B are acceptable, except for the storage stability (830.6317) and corrosion characteristics (830.6320). [MRID No. 460927-02].
- 4. The registrant must submit the results from the storage stability and corrosion characteristic studies upon completion.

#### Decision #: 334427

## **DATA PACKAGE BEAN SHEET**

Date: 16-Jun-2004
Page 1 of 2

# 16633

# \* \* \* Registration Information \* \* \*

					163
Registration:	70506-LT - BIFENTHRIN EC A	GRICULTURAL INS	ECTICIDE		10
Company:	70506 - UNITED PHOSPHORI	JS INC			
Risk Manager:	RM 13 - George Larocca - (703	) 305-6100 Room# Cl	M-2 206	<u> </u>	
Risk Manager Reviewer:	Linda DeLuise LDELUISE				
Sent Date:		Calculated Due Da	ate:	Edited Due Date:	
Type of Registration:	Product Registration - Section 3	<u> </u>			
Action Desc:					
Ingredients:	129925 Difonthrin/25 19/				
)	, , , , , , , , , , , , , , , , , , , ,			· · · · · · · · · · · · · · · · · · ·	
	* * * * * -	4- Danlana I			
	" " Da	ta Package ir	nformation * *	•	
Expedite:	◯ Yes ● No	Date Se	ent: 16-Jun-2004	Due Back:	
DP Ingredient:	128825, Bifenthrin				
DP Title:					
CSF Included:	○ Yes ● No Labe	Included: Yes	No Parent I	 DP #:	
		, , , , , , , , , , , , , , , , , , , ,	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Assigned T	<u>o</u>	Date In	Date Out		
Organization: RD / 1	rrb			Administrative Due Date:	13-Nov-2004
Team Name:				Negotiated Due Date:	
Paviouer Name: To			6/29/04		
	EBRA RATE	6/23/04	44/07	Projected Completion Date:	
Contractor Name:					

\* \* \* Studies Sent for Review \* \* \*

No Studies

\* \* \* Additional Data Package for this Decision \* \* \*

Printed on Page 2

\* \* \* Data Package Instructions \* \* \*

Chem,

Registrant claim that they provided this info in reviewed submission.

Page 2

DP#: (3042	200)	* * * Additional Data	* * * Additional Data Package for this Decision * * *				Decision#: (334427)				
DP#		Division/Branch Date	Sent D	ate Due	Instru	tions?	C	SF		abel	
295141	ൂന്റു/IB	22-Oct	-2003 08-0	Dec-2003	Yes	○ No	Yes Yes	⊗ No	Ye:	s (() N	lo
ن 295141	RD/TRB	22-Oct	-2003 08-0	Dec-2003	Yes	⊗ No	Yes	⊗ No	Yes	s 🔘 N	lo
295142	RD/IB	22-Oct	-2003 15-0	Dec-2003	Yes	⊗ No	Yes	⊗ No	Yes	s 🔘 N	lo
295142	RD/TRB	22-Oct	-2003 15-0	Dec-2003	Yes	○ No	Yes	⊘ No	Yes	s (() N	lo
298929	RD/IB	19-Feb	-2004 31-N	May-2004	Yes	⊗ No	Yes	⊗ No	Ye:	s 🔘 N	lo
298929	RD/TRB	19-Feb	-2004 31-N	May-2004	Yes	○ No	Yes	⊗ No	Yes	s 🔘 N	lo
298933	RD/IB		-2004 24-J		~	~	-	_	_	_	
298933	RD/TRB	19-Feb	-2004 24-J	Jun-2004	Yes	⊗ No	Yes	⊗ No	Yes	3 (() N	lo

Dr. Elizabeth Brown Agent for United Phosphorous Inc. 1990 Old Bridge Road, Suite 201 Lake Ridge, VA 22192-2383

JUN - 9 2004

Dear Dr. Brown:

Subject: Application for Registration

Bifenthrin EC Agricultural Insecticide

EPA File Symbol 70506-LT

Your Submission dated January 29, 2004

The application referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is not acceptable for the reasons given below:

1. The basic Confidential Statement of Formula, dated 09/19/03, in not acceptable for the following reason: a) One of the inert ingredients has not been cleared by the Agency. see the enclosed Confidential Appendix.

Please respond within seventy five (75) days from the date of this letter stating your intentions to comply with the information/label requests cited above. If no resubmission is received during this period, the application will be administratively withdrawn.

Sincerely,

George T. LaRocca Product Manager 13 Insecticide Branch Registration Division (7505C)

Enclosure

DATE OUT: 03/ JUNE/ 2004

NON - FEE

Som 6/3/01 Webra M. Jate 6/3/04

SUBJECT: PRODUCT CHEMISTRY REVIEW OF MP[] EP[X]

DP BARCODE No.: 298933 File Symbol No.: 70506-LT PRODUCT NAME: Bifenthrin EC Agricultural Insecticide

COMPANY: United Phosphorus Inc.

FOOD USE [X] INTEGRATED FORMULATION [ ]

PCC: 128825 Decision No. 334427

FROM:

Debra Rate

**Product Chemistry Team** 

Technical Review Branch/RD (7505C)

TO:

Linda DeLuise / George Larocca, RM 13

Insecticide Branch/RD(7505C)

#### INTRODUCTION:

The registrant has resubmitted a CSF (dated 09/19/03) and MRID No.461836-00 in support of the registration application for the proposed end-use product in response to Agency letter dated 01/06/04. The product chemistry data were previously submitted under MRID No. 460927-01 and 460927-02. The proposed end-use product has Bifenthrin (Reg. No. 70506-18, 99.4%) as its active ingredient. TRB has been asked to evaluate the resubmitted CSF (dated 09/19/03) for the proposed end-use product.

#### SUMMARY OF FINDINGS

- 1. The proposed end-use product contains Bifenthrin (Reg. No. 70506-18, 99.4%) as its active ingredient (AI) with product label claim of 25.1%.
- 2. The CSF for basic formulation (dated 09/19/03) is not filled out completely or correctly. The nominal concentrations of the AI concurs with the product label claim and is in compliance with PR Notice 91-2. All of the inert ingredients present in the formulation have not been cleared by the Agency. The data submitted corresponding to the guideline reference 830.1550 (product identity & composition) does not satisfy the data requirements of 40CFR§158.155.
- 3. The data submitted corresponding to the guideline reference 830.1750 (certified limits) satisfies the data requirements of 40CFR§158.175. [MRID No. 460927-01]
- 4. The data submitted corresponding to the guideline reference series 830 Subgroup A were previously accepted except for those pertaining to 830.1550 (product identity and composition) and 830.1600 (description of materials used to produce the product).
- 5. The data submitted corresponding to 830 Series Subgroup B (physical-chemical properties) were previously determined to satisfy the data requirements of 40CFR§158.190, except for storage stability (830.6317) and corrosion characteristics (830.6320). [MRID No. 460927-02]
- 6. The registrant has stated that the long term studies on storage stability (830.6317) and corrosion characteristics (830.6320) are in progress and the results will be submitted on completion.

Appendix for the name of the inert ingredient and additional information needed.

#### BARCODE No.: 298933 File Symbol No.: 70506-LT PRODUCT NAME: Bifenthrin EC Agriculural Insecticide

#### **CONCLUSIONS:**

- 1. The product chemistry data submitted corresponding to 830 Series Subgroup A are acceptable, except for the CSF.
- 2. The basic CSF(dated 09/19/03) is not acceptable for the following reasons:
  - (i). One of the inert ingredients has not been cleared for use by the Agency. See Confidential 3. The product chemistry data submitted corresponding to 830 Series Subgroup B are acceptable, except for the storage stability (830.6317) and corrosion characteristic (830.6320).
- 4. The registrant must submit the results from the storage stability and corrosion characteristic studies upon completion.

# \*Inert ingredient information may be entitled to confidential treatment\*

BARCODE No.: 298933 File Symbol No.: 70506-LT PRODUCT NAME: Bifenthrin EC Agriculural Insecticide

#### **CONFIDENTIAL APPENDIX:**

**Inert Ingredient:** 

Needed from the registrant are:

- \* Composition with Chemical Names
- \* CAS Reg. No.
- \* % of each component in the mixture equaling 100%

# \*Inert ingredient information may be entitled to confidential treatment\*

CHEMICAL NAME/PESTICIDE CHEMICAL CODE (PCC)
REQUEST FORM

(PCC) 03-6622 followup CR#04-0295

REQUESTOR NAME: Debra Ra	+0	request date: 6/2/09
TEL: (703) 306-030 ORG.: RD/		ROOM: 204 MAIL CODE: 75050
	DIV./BR)	ROOM. 20 I WATE CODE. 4503
CSF ATTACHED:	AV./BR)	
YES If CSF is attached complete Item	n A and the chemica	name in Item B
□ NO If CSF is not attached complete		
2 No 11 Car is the attached complete	Hens A moden e.	
A. INFORMATION REQUIRED:		
**Check Applicable Category		
Provide PCC and Tolerance Exemption S	Status For Food-Liee 1	Ipert Ingredient(s)
Provide PCC for Non-Food Use Inert Ing		mort ingression(s)
Provide PCC for Active Ingredient(s)	realient(s)	
□ Provide PCC for Dye	Tracia Damadada	
Determine if Fragrance is Acceptable for		
Other (Describe):		
B. INGREDIENT INFORMATION:		
Ingredient No. 1:	Ingredien	t No. 2:
Cham Name	Cham Nama	
Chem. Name:	Chem. Name.	
Trade Name:	Trade Name:	
CAS Reg. No.:	CAS Reg. No	0.:
Ingredient No. 3:	Ingredient	No. 4:
Cham Name	Cham Name:	
Chem. Name:	Chem. Name.	
Trade Name:	Trade Name:	
CAS Reg. No.:	CAS Reg. No.:	-
C. PESTICIDE PRODUCT INFORMATION:		
EDAD - No Will Control	1 1 1 1 1 1 1 1 1 1	
EPA Reg. No./File Symbol: Pr	oduci Name:	Food Hos Postinidas II VEC II NO
Registrant:  Precent in Formulation (For Fragrance/Dyes only):	0/_	Food-Use Pesticide: □ YES □ NO
Treem in Formulation (For Fragrance Dyes only).		
INFORMATION REPORTED:		With the County and the County of the County
Ingredient No. 1:	Ingredient No. 2	2:
PCC:	PCC:	
TOL. STATUS:	COTHER INF.:	
other INF. Need Composition with	reventages.	
overall perce		of to 100.
Ingredient No. 3:	Ingredient No.	4:
rcc:	PCC:	
OL STATUS :	TOL STATUS	
		1 1 1
COMPLETE LINDA FOR	Data Completed	06/02/04

DP #: (298933)

# **DATA PACKAGE BEAN SHEET**

Date: 19-Feb-2004
Page 1 of 2

165

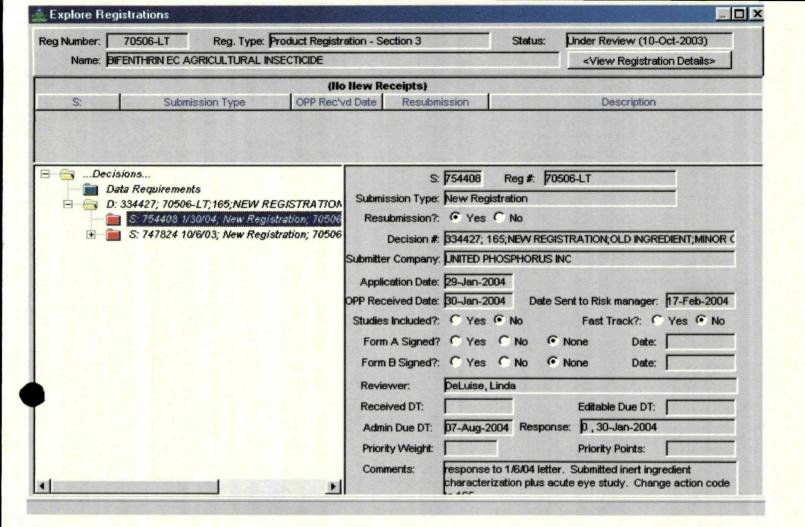
Decision #: 334427

# \* \* \* Registration Information \* \* \*

Registration:	70506-LT - BIFENTHRIN EC AGRICULTURAL INSECTICIDE	
Company:	70506 - UNITED PHOSPHORUS INC	NON EE-
Risk Manager:	RM 13 - George Larocca - (703) 305-6100 Room# CM-2 206	NON - FEE
Risk Manager Reviewer:	Linda DeLuise LDELUISE	
Sent Date:	Calculated Due Date: 07-Aug-2004	Edited Due Date:
Type of Registration:	Product Registration - Section 3	
Action Desc:	(165) NEW REGISTRATION;OLD INGREDIENT;MINOR CHANGE;	
Ingredients:	128825, Bifenthrin(25.1%)	
	* * * Data Package Information * * *	
Expedite:	Yes No Date Sent: 19-Feb-2004	Due Back:
DP Ingredient:	128825, Bifenthrin	
DP Title:		
CSF Included:	● Yes ○ No Label Included: ● Yes ○ No Parent DP #:	
Assigned To		
Organization: RD / T		Administrative Due Date: 18-Jul-2004
	rexi 5/27/04 6/3/04	Negotiated Due Date: 6-24-0 9
		Projected Completion Date:
Contractor Name:		
	* * * Studies Sent for Review * * *	
	No Studies	
	* * * Additional Data Package for this Decision *	* *
	Printed on Page 3	
	* * * Data Package Instructions * * *	
chem,		
resubmit similar to 70	506-li	

Page 2

DP#: (29893	3) * * * Addition		•		Decision#: (	334427)
DP#	Division/Branch	Date Sent	Date Due	Instructions?	CSF	label
295141	RD/IB	19-Feb-2004	19-Feb-2004	() Yes () No	Yes 💮 No 🌘 Y	′es 🔘 No
295141	RD / TRB	19-Feb-2004	19-Feb-2004	Yes No	Yes No 🐞 Y	'es 🔘 No
295142	RD / IB	19-Feb-2004	19-Feb-2004	Yes No	Yes No Y	′es 🔘 No
295142	RD/TRB	19-Feb-2004	19-Feb-2004	🔘 Yes 🔘 No	Yes No Y	'es 🔘 No
298929	RD/IB	19-Feb-2004	19-Feb-2004	Yes No	Yes 💮 No 🌘 Y	'es 🔘 No
298929	RD/TRB	19-Feb-2004	19-Feb-2004	Yes No	Yes 💮 No 🐞 Y	'es 🔘 No



160 #15588

## **DATA PACKAGE BEAN SHEET**

Date: 22-Oct-2003
Page 1 of 3

## \* \* \* Registration Information \* \* \*

Registration:	70506-LT - BIFENTHR	IN EC AGRICULTURAL INSI	CTICIDE	
Company:	70506 - UNITED PHOS	SPHORUS INC		
Risk Manager:	RM 03 - Marion - John	son - (703) 305-6788 Room#	CM-2 219	
Risk Manager Reviewer:	Susan Stanton - SSTA	ANTON		<del></del>
Sent Date:	10-Oct-2003	Calculated Due Dat	e: 04-Jan-2004	Edited Due Date:
Type of Registration:	Product Registration -	Section 3		
Action Desc:	NEW REGISTRATION	I;ME-TOO;		•
Ingredients:	128825			
Ú •	* *	* Data Package In	formation * * *	
Expedite:	◯ Yes ● No	Date Se	nt: 22-Oct-2003	Due Back:
DP Ingredient:	128825, Bifenthrin			**************************************
DP Title:	New Product Review F	Request		
CSF Included:	● Yes ○ No	Label Included: Yes (	No Parent D	P#:
Assigned T	<u> </u>	Date In	Date Out	
Organization: RD / T	RB			Administrative Due Date: 06-Dec-2003
Team Name: CHEM	1			Negotiated Due Date: 12-8-59
Reviewer Name:			****	Projected Completion Date:
tractor Name:				

\* \* \* Studies Sent for Review \* \* \*

Printed on Page 2

\* \* \* Additional Data Package for this Decision \* \* \*

Printed on Page 3

## \* \* \* Data Package Instructions \* \* \*

Please review the submitted product chemistry data, CSF and draft label for this new product and determine whether they are acceptable. The company has cited 279-3069 as being substantially similar. Since they have submitted a complete product chemistry package (i.e., they aren't citing any product chemistry data), we do not need to know whether the two products are substantially similar from a chemistry perspective. We have asked TRB/TOX to determine whether they are substantially similar from a toxicology perspective, since they are citing tox studies for FMC's product.

DATE OUT: 15 Dec 2003

SUBJECT: EP [x] MP [] PRODUCT CHEMISTRY REVIEW

DP BARCODE No.: D295141

REG./File Symbol No.: 70506-LT

PRODUCT NAME: Bifenthrin EC Agricultural Insecticide

COMPANY: United Phosphorus, Inc.

FOOD USE: [X] PC CODE: 128825

Decision No. 334427 Integrated Formulation []

TO: PM #03, Marion Johnson/Susan Stanton

Insecticide Branch

Registration Division (7505C)

FROM: Bruce F. Kitchens, Chemist

Technical Review Branch Registration Division (7505C)

Brue 7 Katchens 15 Dec 2003 5 Bm 12/10/03

1.

9.17

#### INTRODUCTION:

The registrant, United Phosphorus, Incorporated, is submitting an application for the new end-use product, Bifenthrin EC Agricultural Insecticide. The active ingredient in this product is Bifenthrin (99.4% ai) at a label nominal concentration of 25.1%. This product is intended for use as an insecticide. In support of this request, the registrant has submitted a basic Confidential Statement of Formula (CSF) dated 19 Sept 2003, a draft label, and product chemistry data contained in MRID#s 460927-01 and -02. The Technical Review Branch (TRB) has been asked to review this submission.

#### **SUMMARY OF FINDINGS:**

TRB has reviewed this submission and reports the following findings:

- 1. This product is produced from a registered source of the active ingredient.
- 2. One inert ingredient is not cleared for use in formulated pesticide products. This inert ingredients is not exempt from the requirement of a food tolerance. The remaining inert ingredients are cleared for use in formulated pesticide products. In addition, these inert ingredients are exempt from the requirement of a food tolerance. See the confidential appendix for details.

- 3. The nominal concentration of the active ingredient listed on the proposed basic CSF and the draft label are the same.
- 4. The draft label contains the appropriate storage and disposal statements. In addition, the label contains the appropriate physical and chemical hazard statements.
- 5. The active ingredients certified limits as proposed on the basic CSF are acceptable.

#### **CONCLUSIONS:**

TRB has reviewed this submission and concludes the following:

- The basic formula CSF for the proposed end-use product, Bifenthrin EC Agricultural Insecticide dated 19 Sept 2003 is not acceptable because the proposed formulation contains an inert ingredient which is not cleared for use in formulated pesticide products. See the confidential appendix for details.
- 2. The data requirements for product identity and composition (40 CFR 158.155) and description of materials used to produce the product (40 CFR 158.160) are not satisfied because the proposed product contains an inert ingredient which is not cleared for use in formulated pesticide products.

The remaining data requirements specified in 40 CFR 158.165, 158.167, 158.175, and 158.180 with respect to the description of formulation process, discussion of formation of impurities, certified limits, and enforcement analytical method are satisfied.

3. This submission meets the data requirements as specified in 40 CFR 158.190 with respect to physical and chemical properties. The data requirements for storage stability and corrosion characteristics are not satisfied. The registrant indicated that 1-year studies are in progress and will be submitted to the Agency upon completion.

## PRODUCT CHEMISTRY DATA (GROUP A)

	IDs/Manufacture/	Data Required Fulfilled	MRID No.
830-1550	Product Identity and Composition	N	
830-1600	Description of Materials Used to Produce the Product	N	
830-1620	Description of Production Process	NR	
830-1650	Description of Formulation Process	Y	460927-01
830-1670	Discussion of Impurities	Y	460927-01
830-1700	Preliminary Analysis	NR	
830-1750	Certified Limits	Y	460927-01
830-1800	Enforcement Analytical Method	Y	460927-01

# PRODUCT CHEMISTRY DATA (GROUP B)

- The state of the	24. Physical/Chemical Properties	Data Required Fulfilled	Value or Oualitative Description	MRID No.
	830-6302 Color	Y	Yellow	460927-02
	830-6303 Physical State	Y	Liquid	460927-02
	830-6304 Odor	Y	Aromatic solvent	460927-02
	830-6314 Oxidation/Reduction:Chemical Incompatability	NA	Product does not contain oxidizing or reducing agents	·
100	830-6315 Flammability/Flame Extension	<b>Y</b>	129°F	460927-02
	830-6316 Explodability	NA ·	Product does not contain explosive components	
	830-6317 Storage Stability of Product	, I	One year study in progress	
	830-6319 Miscibility	NA	Product not mixed with petroleum solvents	
	830-6320 Corrosion Characteristics	I	One year study in progress	
	830-6321 Dielectric Breakdown Constant	NA	Product not used around electrical equipment	
	830-7000 pH	Y	4.56 (1% w/w in water)	460927-02
	830-7100 Viscosity	Y	6.308 centistokes @ 20°C; 3.69 centistokes @ 40°C	460927-02
	830-7300 Density	Y	0.958 g/ml (7.995 lb/gal)	460927-02

Explanations: Y = The Requirements Were Fulfilled; N = The Requirements Were Not Fulfilled; NA = Not Applicable; G = Data Gap; U = Requires Upgrading; I = Incomplete or In Progress; W = Waived.

#### Enforcement analytical method: (MRID No. 460927-01)

The active ingredient, Bifenthrin and its isomers were determined by reverse phase HPLC/UV detector (254 nm) using external standard quantitation.

#### Equipment and Parameters

HPLC:

Shimadzu LC-10 AT pump

Detector:

SPD-10A with LC 10 software with UV detector, Wavelength: 254 nm

Integrator:

Digital Electronic Integrator (Model not specified)

Column:

ODS [25cm  $\times$  4.6mm (i.d.)  $\times$  5um particle size

Column temperature: Size of sample:

25°C 20μL

Mobile Phase:

acetonitrile/water (75/25)

Flow rate:

2.0 ml / min.

Duration of time:

Not given

Retention time:

cis-Bifenthrin: 8.9 min and trans-Bifenthrin: 6.2 min

# \*Inert ingredient information may be entitled to confidential treatment\*

6

# CONFIDENTIAL APPENDIX

EP	[x]	MP	PRODUCT CHEMISTRY REVIEW	

BARCODE	No.:_	D295141	REG./File	Symbol	No.: 70506-	LT	
PRODUCT	NAME:	Bifenthr	in EC Agri	<u>cultural</u>	. Insecticio	de	
Reviewe	r:_BKi	tchens	Compan	y: Unite	ed Phosphor	us, Inc.	

- 1. The inert ingredient, pesticide products. Inform the registrant that the following information must be submitted by the supplier to the Agency:
  - Composition with chemical names
  - CAS Reg. No.
  - % of ingredients, if mixture



## 1990 OLD BRIDGE ROAD, SUITE 201 LAKE RIDGE, VIRGINIA 22192-2383

DIRECT: 703-492-7905

MAIN: 703-492-0445 Fax: 703-492-0668 E-MAIL:

brown@chemreg.com WEB SITES: www.chemreg.com

www.pesticide.net

ELIZABETH A. BROWN, PH.D.

January 29, 2004

Document Processing Desk U.S. Environmental Protection Agency (7505C) U.S. Environmental Protection Agency Room 266A, Crystal Mall 2 1921 Jefferson Davis Highway Arlington, VA 22202-4501

Attn: George LaRocca (PM 13)

Re: Bifenthrin EC Agricultural Insecticide EPA File Symbol 70506-LT

Bifenthrin EC-CA Agricultural Insecticide EPA File Symbol 70506-LI

Response to Agency Letter of January 6, 2004

Dear George:

On behalf of our client, United Phosphorus, Inc., and in response to the Agency letter of January 6, 2004, enclosed please find the following items which will fulfill the deficiencies:

# Product Chemistry:

- 1. Attached to this letter are the full details of the inert ingredient, including that the inert ingredient is exempted under 40 CFR 180.1001 (c) as
- 2. United Phosphorus agrees to provide the final report to fulfill product chemistry guidelines 830.6317 and 830.6320, when the ongoing study is completed. We request that the Agency conditionally register the above products, pending completion and submission of the data.

Acute toxicity: As requested, enclosed is a study to address primary eye irritation (Guideline 870.2400). In its January 6, 2004 letter, the Agency confirmed that the above products may be considered as substantially similar to the cited product by all other routes of exposure. Please note that code numbers UPI EXP 2004-04 and DXP-B-2213-A are experimental code numbers for Bifenthrin EC Agricultural Insecticide and Bifenthrin EC-CA Agricultural Insecticide.

#### CONSULTANTS TO SUCCESS<sup>SM</sup>

Over One Hundred and Fifty Years of Combined Experience Assisting Chemical, Pesticide, Bio-Chemical and Life Science Companies on a Wide Range of Issues, Including Regulatory Strategies, Registration, Data Support and Compensation, Quality Assurance, Study Desi276 and Scientific Matters.



Letter to G. LaRocca, January 29, 2004, page 2

Based on the results of the enclosed eye irritation study, revised precautionary wording is appropriate. Enclosed please find revised draft labeling (5 copies plus one redline copy to highlight the changes) to address those revisions for both 70506-LT and 70506-LI, as well as to add uses on grapes to 70506-LT. The uses on grapes are the same as on the cited label (279-3069). The previously submitted data matrix forms and certifications with respect to citation of data are appropriate for these changes and do not need to be revised.

Please let me know if you have any questions or if anything else i	is needed.	• 403
Regards,		~ * * * *
Elizabeth Anne Brown	• • • • • • • • • • • • • • • • • • • •	••••
Elizabeth Anne Brown	••••	•••••
cc: United Phosphorus, Inc.		

# TRANSMITTAL DOCUMENT

#### **Submitter**

United Phosphorus, Inc 423 Riverview Plaza Trenton, NJ 08611

## Regulatory action in support of which this package is submitted

New Product Registration ("Me-Too")
(Bifenthrin EC Agricultural Insecticide; EPA File Symbol 70506-LT)
(Bifenthrin EC-CA Agricultural Insecticide, EPA File Symbol 70506-LI)

## Transmittal Date January 29, 2004

## **Submitted Studies**

	MRID	
		Administrative Materials
Document 1:	46183601	Merkel, D. 2004. UPI EXP 2003-04. Primary eye irritation study in rabbits. PSL Study No. 14814. 18 pages.

Company Official

Ylijasier ance Brown

Company Name:

ChemReg International, LLC., Authorized Representative for UPI

Company Contact:

Elizabeth Anne Brown

Phone Number:

703-492-7905

Please read instructions on revers	e before completing form		F				0060, Approval expires 5-3	
	Unito	ed States		R	egistrati	on	OPP Identifier Nur	nber
<b>\$EPA</b>			A	A	mendme	ent		
ALIM	Environmental	Protection	Agency	x  o	ther			
		ton, DC 20460		ً لـــا				
		lication for	Pesticide - Secti					
1. Company/Product Number			2. EPA Product I	Manager		3. Pro	posed Classification	}
70506-LT; 70506-LI 4. Company/Product (Name)			PM #			┨┌─┐╷	None X Restricte	ed l
Bifenthrin EC Agricultural Inse	cticide		13					_
Bifenthrin EC-CA Agricultural I  5. Name and Address of Appli		_	6 Expedited De	wiew In	aaardan	oo with f	FIFRA Section 3(c)(3)	
United Phosphorus, Inc.	.cant (include ZIP Code)						nposition and labeling	
423 Riverview Plaza			to:				,	
Trenton, NJ 08611			EPA Reg No.	279-3	069; 279-	3114		
Check if this is a new add	dress		Product Name	Captu	re EC Ins	ecticide/l	Miticide; Capture EC-C	AL
					icide/Mitic		······································	
		<u> </u>	ection - II	<u> </u>		<del>-</del>		$\rightarrow$
Amendment – Explain be	wole		Final print	ed lahele	in respon	ise to		
Amendment - Expidin be	,		L		•			
X Resubmission in respons	se to Agency letter dated	1/6/2004	Agency le "Me Too"					
1. Coddiniosion in respons	is rigoros fottor dated	···						
Notification – Explain bel	ow.		Other – E	xolain hel	ow.			
L Notification Explain so.				Apidii i bo	011			
Explanation: Use additional p	nage(s) if necessary (Fo	r Section Land	Section II.)					-
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d Managaratica Dandona William	a Dankaradia		ection III					
Material This Product Will b     Child-Resistant Packaging	Unit Packaging		Water Soluble Packag	ina		1 2. Tv	pe of Container	-
Yes	Yes		Yes	9			Metal	
X No	X No		X No.				Plastic	
	If "Yes"	No. per	If "Yes"	l No	nor		Glass	
*Certification must be submitted	Unit Packaging wat.	container	Package wgt	No.	ainer		Paper Other (Specify)	
be submitted		' '	3					
3. Location of Net Contents In		1	etail Container			_	label directions	•
X Label	Container	1qt, 3 qt, 1 g	al			On Labe	l accompanying produc	.
6. Manner in Which Label is A	ffixed to Product	Lithogr	aph		Other	On Labe	accompanying produc	_
		x Paper	•	·				
	•	Stencil						
		_	ection IV					
Contact Person (Complete	items directly below for in		individual to be contact	ed, if nec				
Name Elizabeth Anne Brown		Title ChemB	eg International, LLC			none No. 92-7905	(Include Area Code)	
		Authori	zed Agent		100 4			
		tification		_	_		Date Application	
I certify that the statements I had acknowledge that any knowing	ive made on this form and	all attachment	s thereto are true, accur	ate and co	mplete.		Received	
both under applicable law	gry raise or misicaumy stat	enicii may be	parasnable by line of IIII	իւ լշտпије	nt VI		•• •	
2. Signature		3. Title					(Stamped)	
Heren A. M.	neum 1		eg International, LLC				•	••••
Hijaner ane Br	-	Authori	zed Agent					• 1
		-						••••
4. Typed Name		5. Date					:	• •
Elizabeth Anna Brown		1/20/20	04				•• ••	•••••

EPA Form 8570-1 (Rev. 8-94) Previous editions are obsolete.

White - EPA File Copy (Original) Yellow - Applicant Copy

....

Product ingredient source information may be entitled to confidential treatment*	
	225
	280





## 1990 OLD BRIDGE ROAD, SUITE 201 LAKE RIDGE, VIRGINIA 22192-2383

DIRECT: 703-492-7905

E-MAIL:

brown@chemreg.com

MAIN: 703-492-0445 Fax: 703-492-0668

WEB SITES: www.chemreg.com

www.pesticide.net

ELIZABETH A. BROWN, PH.D.

January 29, 2004

Document Processing Desk

U.S. Environmental Protection Agency (7505C)

U.S. Environmental Protection Agency

Room 266A, Crystal Mall 2

1921 Jefferson Davis Highway

Arlington, VA 22202-4501

Attn: George LaRocca (PM 13)

Bifenthrin EC Agricultural Insecticide EPA File Symbol 70506-LT Re:

Bifenthrin EC-CA Agricultural Insecticide EPA File Symbol 70506-LI

Response to Agency Letter of January 6, 2004

Dear George:

On behalf of our client, United Phosphorus, Inc., and in response to the Agency letter of January 6, 2004, enclosed please find the following items which will fulfill the deficiencies:

## Product Chemistry:

- 1. Attached to this letter are the full details of the inert ingredient, including that the inert ingredient is exempted under 40 CFR 180.1001 (c) as
- 2. United Phosphorus agrees to provide the final report to fulfill product chemistry guidelines 830.6317 and 830.6320, when the ongoing study is completed. We request that the Agency conditionally register the above products, pending completion and submission of the data.

Acute toxicity: As requested, enclosed is a study to address primary eye irritation (Guideline 870.2400). In its January 6, 2004 letter, the Agency confirmed that the above products may be considered as substantially similar to the cited product by all other routes of exposure. Please note that code numbers UPI EXP 2004-04 and DXP-B-2213-A are experimental code numbers for Bifenthrin EC Agricultural Insecticide and Bifenthrin EC-CA Agricultural Insecticide.

#### CONSULTANTS TO SUCCESS<sup>SM</sup>

Over One Hundred and Fifty Years of Combined Experience Assisting Chemical, Pesticide, Bio-Chemical and Life Science Companies on a Wide Range of Issues, Including Regulatory Strategies, Registration, Data Support and Compensation, Quality Assurance, Study Design and Scientific Matters. 281



Letter to G. LaRocca, January 29, 2004, page 2

Based on the results of the enclosed eye irritation study, revised precautionary wording is appropriate. Enclosed please find revised draft labeling (5 copies plus one redline copy to highlight the changes) to address those revisions for both 70506-LT and 70506-LI, as well as to add uses on grapes to 70506-LT. The uses on grapes are the same as on the cited label (279-3069). The previously submitted data matrix forms and certifications with respect to citation of data are appropriate for these changes and do not need to be revised.

Please let me know if you have any questions or	if anything else is needed.
Regards,	,
Elizabeth Anne Brown	
Elizabeth Anne Brown	••••
cc: United Phosphorus, Inc.	

# TRANSMITTAL DOCUMENT

### **Submitter**

United Phosphorus, Inc 423 Riverview Plaza Trenton, NJ 08611

## Regulatory action in support of which this package is submitted

New Product Registration ("Me-Too")

(Bifenthrin EC Agricultural Insecticide; EPA File Symbol 70506-LT) (Bifenthrin EC-CA Agricultural Insecticide, EPA File Symbol 70506-LI)

## **Transmittal Date**

January 29, 2004

## **Submitted Studies**

	MRID	
		Administrative Materials
Document 1:	46183601	Merkel, D. 2004. UPI EXP 2003-04. Primary eye irritation study in rabbits. PSL Study No. 14814. 18 pages.

Company Official

Hejanes ance Brown

Company Name:

ChemReg International, LLC., Authorized Representative for UPI

Company Contact:

Elizabeth Anne Brown

Phone Number:

703-492-7905

# \*Inert ingredient information may be entitled to confidential treatment\*



### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

JAN 6 2004

United Phosphorus, Inc. c/o Ms. Elizabeth A. Brown, Ph.D. ChemReg International, LLC 1990 Old Bridge Road, Suite 201 Lake Ridge, VA 22192-2383

SUBJECT: Applications for Registration:

I. Bifenthrin EC Agricultural Insecticide EPA File Symbol: 70506-LT; and

II. Bifenthrin EC-CA Agricultural Insecticide

EPA File Symbol: 70506-LI

Your Submissions Dated October 6, 2003

#### Dear Ms. Brown:

EPA has completed its review of product chemistry data submitted in support of these applications for registration. A copy of the review, dated December 15, 2003 is enclosed for your records. The following product chemistry deficiencies have been identified:

- One of the inert ingredients in the products has not been cleared for use in pesticides. Please contact your supplier and have them submit the chemical names, CAS numbers and percentages of all the components of Also, please ask the supplier to reference your file symbols (70506-LT and 70506-LI) in their submission.
- You must submit data to satisfy product chemistry guidelines 830-6317 (storage stability)
  and 830-6320 (corrosion characteristics). Provided the other deficiencies associated with
  the application are resolved, EPA may conditionally register the subject products pending
  completion of these studies.

We have also compared these products to the cited product (Capture 2EC Insecticide/Miticide; EPA Reg. No. 279-3069) and determined that they may be considered substantially similar with respect to acute toxicity by all routes of exposure except the ocular route. Because of differences in inert ingredients, we are concerned that the subject products may have the potential for increased eye irritation. Therefore, you must submit a primary eye irritation study (Guideline 870.2400) to support registration of these products. A copy of the similarity review, dated December 18, 2003 is enclosed for your records.

Finally, EPA is in the process of evaluating the label amendment you submitted to add food uses to the label of Bifenthrin Technical Insecticide/Miticide (EPA Reg. No. 70506-18). We will evaluate the subject products' labeling once we complete our review of the technical label and you have adequately addressed the deficiencies noted above.

If you have any questions regarding this action, please contact Susan Stanton of my team at (703) 305-5218.

Sincerely yours,

Susan L. Stanton, for George T. LaRocca

Product Manager (13)

Insecticide Branch

Registration Division (7505C)

**Enclosures** 

Decision #: 334427

## **DATA PACKAGE BEAN SHEET**

Date: 22-Oct-2003

Page 1 of 3

## \* \* \* Registration Information \* \* \*

160 H-15603

		registration in	iioiiiiatioii		•
Registration:	70506-LT - BIFENTHRIN	EC AGRICULTURAL IN	SECTICIDE		
Company:	70506 - UNITED PHOSPI	HORUS INC			
Risk Manager:	RM 03 - Marion - Johnson	ı - (703) 305-6788 Room	# CM-2 219	<del></del>	
isk Manager Reviewer:	Susan Stanton - SSTAN	TON			
Sent Date:	10-Oct-2003	Calculated Due D	ate: 04-Jan-2004	Edited Due Da	ate:
Type of Registration:	Product Registration - Sec	ction 3			
Action Desc:	NEW REGISTRATION;MI	E-TOO;			
Ingredients:	128825				
		Data Package I	nformation *	* *	
Expedite:		Date S	ent: 22-Oct-2003		ick:
Expedite: DP Ingredient:	* <b>* *</b>	Date S	ent: 22-Oct-2003	_ Due Ba	ick:
Expedite: DP Ingredient: DP Title:	* * *  Yes ● No  128825, Bifenthrin  Similarity Determination R	Date S	ent: 22-Oct-2003	_ Due Ba	ick:
Expedite: DP Ingredient: DP Title:	* * *  Yes ● No  128825, Bifenthrin  Similarity Determination R  ● Yes ○ No L	Date S Request	ent: 22-Oct-2003	Due Ba	ick:
Expedite: DP Ingredient: DP Title: CSF Included:	* * *  Yes No  128825, Bifenthrin  Similarity Determination R  Yes No L	Date S Request abel Included:  Yes	ent: 22-Oct-2003  No Parer	Due Ba	
Expedite:  DP Ingredient:  DP Title:  CSF Included:  Assigned To	* * *  Yes No  128825, Bifenthrin  Similarity Determination R  Yes No L	Date S Request  abel Included:   Date In	ent: 22-Oct-2003  No Parer	Due Ba	
Expedite:  DP Ingredient:  DP Title:  CSF Included:  Assigned To  Organization: RD / Ts  Team Name: TOX	* * *  Yes No  128825, Bifenthrin  Similarity Determination R  Yes No L	Date S Request abel included:   Date in	ent: 22-Oct-2003  No Parer	Due Ba	te: 06-Dec-2003 te: 12-15-0-

\* \* \* Studies Sent for Review \* \* \*

Printed on Page 2

\* \* \* Additional Data Package for this Decision \* \* \*

Printed on Page 3

\* \* \* Data Package Instructions

Please compare the CSFs and labels for this new product and the cited product (Capture 2EC, 279-3069) and determine whether the products are substantially similar.

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### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

## TECHNICAL REVIEW BRANCH SIMILARITY CLINIC DETERMINATION

18/DEC/2003

**MEMORANDUM** 

Subject:

Name of Pesticide Product: Bifenthrin EC Agricultural Insecticide

EPA Reg. No. /File Symbol: 70506-LT DP Barcode:

D295142

Decision No:

334427

PC Code:

128825

From:

Eugenia McAndrew, Biologist

Technical Review Branch

Registration Division (7505C)

To:

Susan Stanton, PM Team 03

Insecticide Branch

Registration Division (7505C)

Applicant:

United Phosphorus, Inc.

423 Riverview Plaza Trenton, NJ 08611

FORMULATION FROM LABEL:

Active Ingredient(s):

% by wt.

128825

Bifenthrin

25.1

Inert Ingredient(s):

7<u>4.</u>9

Total:

100.0%

ACTION REQUESTED: "Please compare the CSFs and labels for this new product and the cited product (Capture 2EC, 279-3069) and determine whether the products are substantially similar."

**BACKGROUND**: United Phosphorus, Inc. has applied for registration of Bifenthrin EC Agricultural Insecticide, EPA File Symbol 70506-LT, claiming similarity to Capture 2EC, EPA Reg. No. 279-3069. Both products contain bifenthrin (label claim of 25.1%) as the active ingredient.

**RECOMMENDATIONS**: TRB has evaluated the formulations of the proposed product, 279-3069, and the cited product, 70506-LT, and has concluded that the two products are substantially similar. However, the inert ingredients in the proposed product are different from those in the cited product and TRB is concerned about the potential for increased eye irritation. Therefore, a new primary eye irritation study should be submitted for the proposed formulation. TRB recommends that the proposed product use the same precautionary labeling as the cited product.

This memorandum pertains only to the decision concerning whether the subject product is similar to the cited product from an acute toxicological view point. For the purposes of this action, TRB has made no determination of the adequacy of the toxicological data base or the precautionary label of the cited product.



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES AND **TOXIC SUBSTANCES** 

## TECHNICAL REVIEW BRANCH SIMILARITY CLINIC DETERMINATION

18/DEC/2003

MEMORANDUM

Subject:

Name of Pesticide Product: Bifenthrin EC Agricultural Insecticide

EPA Reg. No. /File Symbol: 70506-LT

DP Barcode:

D295142

Decision No:

334427

PC Code:

128825

From:

Eugenia McAndrew, Biologist

**Technical Review Branch** Registration Division (7505C)

To:

Susan Stanton, PM Team 03

Insecticide Branch

Registration Division (7505C)

Applicant:

United Phosphorus, Inc.

423 Riverview Plaza

Trenton, NJ 08611

FORMULATION FROM LABEL:

Active Ingredient(s):

% by wt.

128825

Bifenthrin

25.1

Inert Ingredient(s):

74.9

Total:

100.0%

ACTION REQUESTED: "Please compare the CSFs and labels for this new product and the cited product (Capture 2EC, 279-3069) and determine whether the products are substantially similar."

BACKGROUND: United Phosphorus, Inc. has applied for registration of Bifenthrin EC Agricultural Insecticide, EPA File Symbol 70506-LT, claiming similarity to Capture 2EC, EPA Reg. No. 279-3069. Both products contain bifenthrin (label claim of 25.1%) as the active ingredient.

RECOMMENDATIONS: TRB has evaluated the formulations of the proposed product, 279-3069, and the cited product, 70506-LT, and has concluded that the two products are substantially similar. However, the inert ingredients in the proposed product are different from those in the cited product and TRB is concerned about the potential for increased eye irritation. Therefore, a new primary eye irritation study should be submitted for the proposed formulation. TRB recommends that the proposed product use the same precautionary labeling as the cited product.

This memorandum pertains only to the decision concerning whether the subject product is similar to the cited product from an acute toxicological view point. For the purposes of this action, TRB has made no determination of the adequacy of the toxicological data base or the precautionary label of the cited product.

DP #: (295141)

Decision #: 334427

160 #15588

### DATA PACKAGE BEAN SHEET

Date: 22-Oct-2003
Page 1 of 3

## \* \* \* Registration Information \* \* \*

Registration:	70506-LT - BIFENTH	RIN EC AGRICULTURAL INSEC	CTICIDE							
Company:	70506 - UNITED PHOSPHORUS INC									
Risk Manager:	RM 03 - Marion - John	RM 03 - Marion - Johnson - (703) 305-6788 Room# CM-2 219								
Risk Manager Reviewer:	Susan Stanton - SST	ANTON		demander over alle						
Sent Date:	10-Oct-2003	Calculated Due Date:	04-Jan-2004	Edited Due Date:						
Type of Registration:	Product Registration -	Section 3								
Action Desc:	NEW REGISTRATION	N;ME-TOO;								
Ingredients:	128825									
Expedite:	* :	* * Data Package Info	22-Oct-2003							
DP Ingredient:	128825, Bifenthrin									
DP Title:	New Product Review	Request								
CSF Included:	● Yes ○ No	Label Included:   Yes	No Parent (	DP #:						
Assigned T	<u>o</u>	Date In	Date Out	,						
Organization: RD / T	TRB			Administrative Due Date:						
Team Name: CHEM	_			Negotiated Due Date:	12-8-04					
Reviewer Name:										
				Projected Completion Date:						

\* \* \* Studies Sent for Review \* \* \*

Printed on Page 2

\* \* \* Additional Data Package for this Decision \* \* \*

Printed on Page 3

## \* \* \* Data Package Instructions \* \* \*

Please review the submitted product chemistry data, CSF and draft label for this new product and determine whether they are acceptable. The company has cited 279-3069 as being substantially similar. Since they have submitted a complete product chemistry package (i.e., they aren't citing any product chemistry data), we do not need to know whether the two products are substantially similar from a chemistry perspective. We have asked TRB/TOX to determine whether they are substantially similar from a toxicology perspective, since they are citing tox studies for FMC's product.

DATE OUT: 15 Dec 2003

PRODUCT CHEMISTRY REVIEW SUBJECT: [x][ ]

BARCODE No.: D295141

REG./File Symbol No.: 70506-LT

PRODUCT NAME: Bifenthrin EC Agricultural Insecticide

COMPANY: United Phosphorus, Inc.

PC CODE: 128825 FOOD USE: [X]

Decision No. 334427 Integrated Formulation [ ]

TO: PM #03, Marion Johnson/Susan Stanton

Insecticide Branch

Registration Division (7505C)

Bruce F. Kitchens, Chemist FROM:

Bruce 7. Kitchens 15 Dec 2003 5 Bm 12/10/03 Technical Review Branch Registration Division (7505C)

#### INTRODUCTION:

The registrant, United Phosphorus, Incorporated, is submitting application for the new end-use product, Bifenthrin EC Agricultural Insecticide. The active ingredient in this product is Bifenthrin (99.4% ai) at a label nominal concentration of 25.1%. This product is intended for use as an insecticide. In support of this request, the registrant has submitted a basic Confidential Statement of Formula (CSF) dated 19 Sept 2003, a draft label, and product chemistry data contained in MRID#s 460927-01 and -02. The Technical Review Branch (TRB) has been asked to review this submission.

#### SUMMARY OF FINDINGS:

TRB has reviewed this submission and reports the following findings:

- This product is produced from a registered source of the active ingredient.
- 2. One inert ingredient is not cleared for use in formulated pesticide products. This inert ingredients is not exempt from the requirement of a food tolerance. The remaining inert ingredients are cleared for use in formulated pesticide products. In addition, these inert ingredients are exempt from the requirement of a food tolerance. See the confidential appendix for details.

- 3. The nominal concentration of the active ingredient listed on the proposed basic CSF and the draft label are the same.
- 4. The draft label contains the appropriate storage and disposal statements. In addition, the label contains the appropriate physical and chemical hazard statements.
- 5. The active ingredients certified limits as proposed on the basic CSF are acceptable.

#### **CONCLUSIONS:**

TRB has reviewed this submission and concludes the following:

- 1. The basic formula CSF for the proposed end-use product, Bifenthrin EC Agricultural Insecticide dated 19 Sept 2003 is not acceptable because the proposed formulation contains an inert ingredient which is not cleared for use in formulated pesticide products. See the confidential appendix for details.
- 2. The data requirements for product identity and composition (40 CFR 158.155) and description of materials used to produce the product (40 CFR 158.160) are not satisfied because the proposed product contains an inert ingredient which is not cleared for use in formulated pesticide products.
  - The remaining data requirements specified in 40 CFR 158.165, 158.167, 158.175, and 158.180 with respect to the description of formulation process, discussion of formation of impurities, certified limits, and enforcement analytical method are satisfied.
- 3. This submission meets the data requirements as specified in 40 CFR 158.190 with respect to physical and chemical properties. The data requirements for storage stability and corrosion characteristics are not satisfied. The registrant indicated that 1-year studies are in progress and will be submitted to the Agency upon completion.

## PRODUCT CHEMISTRY DATA (GROUP A)

11	IDs/Manufacture/ al Information	Data Required Fulfilled	MRID No.
830-1550	Product Identity and Composition	N	
830-1600	Description of Materials Used to Produce the Product	N	
830-1620	Description of Production Process	NR	
830-1650	Description of Formulation Process	Y	460927-01
830-1670	Discussion of Impurities	Y	460927-01
830-1700	Preliminary Analysis	NR	
830-1750	Certified Limits	Y	460927-01
830-1800	Enforcement Analytical Method	Y	460927-01

## PRODUCT CHEMISTRY DATA (GROUP B)

24. Physical/Chemical Properties	Data Required Fulfilled	Value or Qualitative Description	MRID No.
830-6302 Color	Y	Yellow	460927-02
830-6303 Physical State	Y	Liquid	460927-02
830-6304 Odor	Y	Aromatic solvent	460927-02
830-6314 Oxidation/Reduction:Chemical Incompatability	NA	Product does not contain oxidizing or reducing agents	
830-6315 Flammability/Flame Extension	Υ .	129°F	460927-02
830-6316 Explodability	NA	Product does not contain explosive components	
830-6317 Storage Stability of Product	I	One year study in progress	
830-6319 Miscibility	NA	Product not mixed with petroleum solvents	
830-6320 Corrosion Characteristics	I	One year study in progress	
830-6321 Dielectric Breakdown Constant	NA	Product not used around electrical equipment	
830-7000 pH	Y	4.56 (1% w/w in water)	460927-02
830-7100 Viscosity	Y	6.308 centistokes @ 20°C; 3.69 centistokes @ 40°C	460927-02
830-7300 Density	Y	0.958 g/ml (7.995 lb/gal)	460927-02

Explanations: Y = The Requirements Were Fulfilled; N = The Requirements Were Not Fulfilled; NA = Not Applicable; G = Data Gap; U = Requires Upgrading; I = Incomplete or In Progress; W = Waived.

#### Enforcement analytical method: (MRID No. 460927-01)

The active ingredient, Bifenthrin and its isomers were determined by reverse phase HPLC/UV detector (254 nm) using external standard quantitation.

#### Equipment and Parameters

HPLC: Shimadzu LC-10 AT pump

Detector: SPD-10A with LC 10 software with UV detector, Wavelength: 254 nm

Integrator: Digital Electronic Integrator (Model not specified)

Column: ODS [25cm x 4.6mm (i.d.) x 5um particle size

Column temperature:  $25^{\circ}$ C Size of sample:  $20\mu$ L

Mobile Phase: acetonitrile/water (75/25)

Flow rate: 2.0 ml / min. Duration of time: Not given

Retention time: cis-Bifenthrin: 8.9 min and trans-Bifenthrin: 6.2 min

#### CONFIDENTIAL APPENDIX

## EP [x] MP [ ] PRODUCT CHEMISTRY REVIEW

BARCODE	No.:_	D295141	REG./File	Symbol	No.:_7	<u> 0506-LT</u>		 
PRODUCT	NAME:	Bifenthr	in EC Agri	cultura	l Insec	cticide		 
Reviewe	r: BKi	tchens	Compan	y: Unit	ed Phos	sphorus,	Inc.	

- 1. The inert ingredient, is not cleared for use in formulated pesticide products. Inform the registrant that the following information must be submitted by the supplier to the Agency:
  - Composition with chemical names
  - ► CAS Reg. No.
  - % of ingredients, if mixture

<sup>\*</sup>Inert ingredient information may be entitled to confidential treatment\*



# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

October 16, 2003

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

UNITED PHOSPHORUS INC 423 RIVERVIEW PLAZA TRENTON, NJ 08611

Report of Analysis for Compliance with PR Notice 86-5

Thank you for your submittal of 06-OCT-03. Our staff has completed a preliminary analysis of the material. The results are provided as follows:

Your submittal was found to be in full compliance with the standards for submission of data contained in PR Notice 86-5. A copy of your bibliography is enclosed, annotated with Master Record ID's (MRIDs) assigned to each document submitted. Please use these numbers in all future references to these documents. Thank you for your cooperation. If you have any questions concerning this data submission, please raise them with the cognizant Product Manager, to whom the data have been released.



# 1990 OLD BRIDGE ROAD, SUITE 201 LAKE RIDGE, VIRGINIA 22192-2383

DIRECT: 703-492-7905

Main: 703-492-0445

Fax: 703-492-0668

E-MAIL:

brown@chemreg.com

WEB SITES: www.chemreg.com

www.pesticide.net

## ELIZABETH A. BROWN, PH.D.

October 6, 2003

Document Processing Desk (APPL)
U.S. Environmental Protection Agency (7505C)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202-4501

Attn: George LaRocca (PM 13)

Re: Application for Registration of "Me-Too" Bifenthrin EC Agricultural Insecticide

On behalf of our client, United Phosphorus, Inc. (UPI), we are submitting an application for a "me-too" registration of Bifenthrin EC Agricultural Insecticide Insecticide (EPA Product Code 128825). This product is substantially similar in composition and labeling to the already registered EPA Reg No. 279-3069 (based on most recent label approval of 5/7/2003).

Enclosed with this letter, please find the following items:

- 1. Application Form (EPA Form 8570-1)
- 2. Confidential Statement of Formula (EPA Form 8570-4)
- 3. Data matrix forms, Agency Use and Public File copies (EPA Form 8570-35)
- 4. Certification with Respect to Citation of Data (EPA Form 8570-34)
- 5. Five (5) copies of the proposed labeling
- 6. Transmittal document
- 7. Three (3) copies of each submitted study.

Please note that we are relying upon the selective cite-all method to satisfy data requirements that have not been satisfied by data submitted by UPI. Data submitted for this application also fulfills requirements for a concurrent application for Bifenthrin EC-CA Agricultural Insecticide; the two products are identical in composition but the uses are limited on the EC-CA in comparison to this application.

## CONSULTANTS TO SUCCESS<sup>SM</sup>

Over One Hundred and Fifty Years of Combined Experience Assisting Chemical, Pesticide, Bio-Chemical and Life Science Companies on a Wide Range of Issues, Including Regulatory Strategies, Registration, Data Support and Compensation, Quality Assurance, Study De**390** and Scientific Matters.



Letter to G. Larocca, October 6, 2003, page 2

Please let me know if you have any questions about this application or if any additional information is needed.

Sincerely,

Elizabeth Anne Brown, Ph.D.

Elizabeth Due Brown

cc: United Phosphorus, Inc.

## TRANSMITTAL DOCUMENT

## **Submitter**

United Phosphorus, Inc 423 Riverview Plaza Trenton, NJ 08611

## Regulatory action in support of which this package is submitted

New Product Registration ("Me-Too") (Bifenthrin EC Agricultural Insecticide) (Bifenthrin EC-CA Agricultural Insecticide)

# Transmittal Date

October 6, 2003

### **Submitted Studies**

	MRID	
		Administrative Materials
Document 1:	46092701	<ul> <li>Tillman, A. Sept. 19, 2003. Bifenthrin EC Agricultural Insecticide, Bifenthrin EC-CA Agricultural Insecticide.</li> <li>Product Identity, Composition and Analysis (Group A).</li> <li>United Phosphorus, Inc. Report No. UPI-Bifen EC – 2003-10. 44 pages. Contains Confidential Business Information.</li> </ul>
Document 2	46092702	Tillman, A. Sept. 19, 2003. Bifenthrin EC Agricultural Insecticide, Bifenthrin EC-CA Agricultural Insecticide. Self-certification of physical/chemical properties. United Phosphorus Inc. Report No. UPI-Bifen EC 2003-11. 5 pages.

Company Official

Elizabet are Brown

Company Name:

ChemReg International, LLC., Authorized Representative for UPI

Company Contact:

Elizabeth Anne Brown

Phone Number:

703-492-7905



#### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 401 M STREET, S.W. WASHINGTON, D.C. 20460

Paperwork Reduction Act Notice: The public reporting burden for this collection of information is estimated to average 1.25 hours per response for registration and 0.25 hours per response for registration and special review activities, including time for reading the instructions and completing the necessary forms. Send comments regarding burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: Director, OPPE Information Management Division (2137), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460

20460.  Do not send the completed form to this address.							
Certification with Respect to Citation of Data							
Applicant's/Registrant's Name, Address, and Telephone Number United Phosphorus, Inc. 423 Riverview Plaza Trenton, NJ 08611 609-392-8200	EPA Registration Number/File Symbol 70506-						
Active Ingredient(s) and/or representative test compound(s) Bifenthrin		Date 10/3/2003					
General Use Pattern(s) (list all those claimed for this product using 40 ( Terrestrial food	OFR Part 158)	Product Name Bifenthrin EC Agricultural Insecticide					
TE: If your product is a 100% repackaging of another purchased EF to submit this form. You must submit the Formulators Exemption State							
I am responding to a Data-Call-In Notice, and have included we should be used for this purpose).	vith this form a list of	companies sent offers of compensation (the Data Matrix form					
SECTION I: METHOD OF DA	TA SUPPORT (Che	k one method only)					
I am using the cite-all method of support, and have included w this form a list of companies sent offers of compensation (the Matrix form should be used for this purpose)	am using the selective method of support (or cite-all option nder the selective method), and have included with this form completed list of data requirements (the Data Matrix form nust be used).						
SECTION II: G	ENERAL OFFER TO	PAY					
[Required if using the cite-all method, or when using the cite-all option (	under the selective m	ethod to satisfy one or more data requirements]					
I hereby offer and agree to pay compensation, to other person	ns, with regard to the	approval of this application, to the extent required by FIFRA					
SECTION	III: CERTIFICATION						
I certify that this application for registration, this form for reregistration or this Data-Call-In response is supported by all data submitted or cited in application for registration, the form for reregistration, or the Data-Call-In response. In addition, if the cite-all option or cite-all option under the selective method is indicated in Section 1, this application is supported by all data in the Agency's files that (1) concern the properties or effects of this product or an identical or substantially similar product, or one or more of the ingredients in this product; and (2) is a type of data that would be required to be submitted under the data requirements in effect on the date of approval of this application if the application sought the initial registration of a product of identical or similar composition and uses.							
I certify that for each exclusive use study cited in support of this obtained the written permission of the original data submitted to cite that		stration, that I am the original data submitter or that I have					
I certify that for each study cited in support of this registration or reregistration that is not an exclusive use study, either: (a) I am the original data submitter; (b) I have obtained the permission of the original data submitter to use the study in support of this application; (c) all periods of eligibility for compensation have expired for the study; (d) the study is in the public literature; or (e) I have notified in writing the company that submitted the study and have offered (i) to pay compensation to the extent required by sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA; and (ii) to commence negotiations to determine the amount and terms of compensation, if any, to be paid for the use of the study.							
I certify that in all instances where an offer of compensation is required, copies of all offers to pay compensation and evidence of their delivery in accordance with sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA are available and will be submitted to the Agency upon request. Should I fail to produce such evidence to the Agency upon request, I understand that the Agency may initiate action to deny, cancel or suspend the registration of my product in conformity with FIFRA.							
	I certify that the statements I have made on this form and all attachments to it are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment of both under applicable law.						
Signature  Am M. Julle	Date 10/3/2003	Typed or Printed Name and Title Ann M. Tillman, Ph.D. Technical Director					

EPA Form 8570-34 (9-97) Electronic and Paper versions available. Submit only Paper version.

#### RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms.

For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

### BIFENTHRIN EC AGRICULTURAL INSECTICIDE

#### BIFENTHRIN EC AGRICULTURAL INSECTICIDE IS NOT FOR SALE OR USE IN CALIFORNIA.

Active Ingredient:		By Wt.
Bifenthrin* (2 methyl[1,1'-bipheny	l]-3-yl) methyl 3-(2-ch	loro-3,3,3-trifluoro-
1-propenyl)-2,2-dimethylcyclopropa	anecarboxlate	25.1%
Inert Ingredients**:		<u>74.9</u> %
TOTAL		100.0%

<sup>\*</sup>Cis isomers 97% minimum, trans isomers 3% maximum.

This product contains 2 pounds active ingredient per gallon.

### KEEP OUT OF REACH OF CHILDREN WARNING AVISO

This label must be in the possession of the user at the time of application.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

	FIRST AID
If swallowed	<ul> <li>Call poison control center or doctor immediately for treatment advice.</li> <li>Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>Do not give any liquid to the person.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
If inhaled	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
If in eyes	<ul> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
If on skin or clothing	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>

#### NOTE TO PHYSICIAN

This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE, CALL THE NATIONAL PESTICIDE INFORMATION CENTER 1-800-858-7378.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.



Manufactured for: United Phosphorus, Inc. 423 Riverview Plaza • Trenton, NJ 08611 1-800-247-1557 • www.upi-usa.com

EPA Reg. No. 70506-EPA Est. No. Net Contents:

<sup>\*\*</sup>Contain xylene range aromatic solvents

# PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals Warning

May be fatal if swallowed. Harmful if inhaled, or absorbed through skin. Causes moderate eye irritation. Avoid breathing vapor or spray mist. Avoid contact with skin, eyes, or clothing.

#### **Personal Protective Equipment:**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions or category E on an EPA chemical resistance category selection chart.

#### Handlers who may be exposed to the dilute through application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, or Nitrile rubber or neoprene rubber or Viton.
- Shoes plus socks

#### Handlers who may be exposed to the concentrate through mixing, loading, application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile rubber, neoprene rubber, or Viton.
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

#### **Environmental Hazards**

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

#### Physical/Chemical Hazards

Do not use or store near heat or open flame.

#### DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**Resistance:** Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control in your area.

#### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls.
- Chemical-resistant gloves, such as Barrier Laminate or Nitrile Rubber or Neoprene Rubber or Viton.
- · Shoes plus socks.

#### STORAGE AND DISPOSAL

**Pesticide Storage:** Do not freeze. Do not store below 40°F. If crystals are observed, warm material to above 60°F by placing in warm location. Shake or roll container periodically to redissolve solids.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.

To Confine Spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Container Disposal: Metal or Plastic Container: Triple rinse (or equivalent), then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

Returnable, Refillable Containers: Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

#### **Chemigation Use Directions**

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

For LEPA irrigation a minimum of 0.75 inch of water per acre is recommended. Where non-emulsified oils are used as the diluent, 1 to 2 pints per acre is recommended.

Results from utilizing chemigation have been variable and depend upon the set up and calibration of equipment. Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. Contact your State Agricultural Extension Service specialists, equipment manufacturers or other experts for consultation on the suitability of the equipment set up to obtain effective control of the target insect pests.

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease application during a mechanical stoppage may result in undesirable residues to adjacent areas.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Bifenthrin EC Agricultural Insecticide should be applied continuously for the duration of the water application. Bifenthrin EC Agricultural Insecticide should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation, a minimum of 0.5 inch per acre of irrigation water is recommended. Agitation generally is not required when a suitable diluent is used. A diluent test should be conducted to ensure that phase separation will not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

#### **Rotational Crops**

Crops for which bifenthrin tolerances exist may be rotated at any time. All other crops may be rotated 30 days following the final application of bifenthrin.

#### Tank-Mixture

Bifenthrin EC Agricultural Insecticide may be applied in tank mixtures with other products approved for use on registered crops.

Observe all restrictions and precautions which appear on the labels of these products. Test for compatibility of products before mixing.

#### **Application Instructions**

Rate of application is variable according to pest pressure, timing of sprays, and field scouting. Use lower rates under light to moderate infestations; higher rates under heavy insect pressure and for mite control. Arid climates generally require higher rates.

Cultivation within 10 feet of a water body is prohibited to allow for the growth of a vegetated filter strip.

In New York State this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

#### **Spray Drift Precautions**

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMANENT STREAMS; MARSHES OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.

Do not apply by ground equipment within 25 feet, or by air within 150 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds. Increase the buffer zone to 450 feet when ultra low volume (ULV) application is made in cotton. Use of ultra low volume (ULV) application on corn is prohibited.

For aerial applications, the spray boom should be mounted on the aircraft so as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of wing span or rotor diameter.

Use the largest droplet size consistent with good pest control. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.

Spray should be released at the lowest height consistent with pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided.

Make aerial or ground applications when the wind velocity favors on target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid applications when wind gusts approach 15 mph.

Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

Do not cultivate within 10 feet of the aquatic areas so as to allow growth of a vegetative filter strip.

Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift to aquatic areas. Avoid spraying during conditions of low humidity and/or high temperature.

Do not make aerial or ground applications during temperature inversions. Do not make aerial or ground applications to corn if heavy rainfall is imminent. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

#### INDEX TO CROPS LISTED ON THIS LABEL

Artichoke

Brassicas

Caneberries

Canola, Crambe, Rapeseed

Citrus

Cotton

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (At Plant Use)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (PRE & PPI)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed (Foliar Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (At Plant Use)

Sweet Corn (Grain and Silage), Sweet Corn Grown for Seed (Foliar Use)

Cucurbits

Eggplant

Hops

Lettuce, Head

Pears

Peppers, Bell and Non-Bell

Spinach

Succulent Peas and Beans

Tomatoes,

# ARTICHOKE

	DOSAGE		DOSAGE		
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS		
Cribrate Weevil	0.10	6.4	Apply when pest population reaches damaging threshold and repeat as necessary to		
Artichoke Plume			maintain control, but not more often than 15 day intervals.		
Moth					
· .			Application by ground: Apply a full cover spray in a minimum of 75 gallons of		
			finished spray per acre.		
			Application by air: Apply specified dosage in a minimum of 10 gallons per acre.		
		,			
		İ	Do not exceed 0.5 lb. AI/A per season.		
		1.5			
			A 5-day preharvest interval must be observed.		

#### BRASSICAS

			DOSA	GE	
	CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
	Head and Stem	Cutworms	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre
.	Brassica	Corn Earworm			by air or in a minimum of 10 gallons per acre with ground
	Vegetables	Tobacco	İ		equipment. When applying by air, 1-2 quarts of emulsified
1	including:	Budworm	. •	*	oil may be substituted for 1-2 quarts of water in the finished
.	Broccoli	Saltmarsh	ŧ		spray. Thorough coverage is essential to achieve control.
-	Chinese Broccoli	Caterpillar			
-	(gai lon, white	Leafhoppers	` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` `		Do not apply more than 0.5 lb active ingredient (1 quart) per
-	flowering	Flea Beetles			acre per season.
	broccoli)	Imported			
	<b>Brussels Sprouts</b>	Cabbageworm			Do not make more than 5 applications after bloom.
	Cauliflower	Cucumber	a to a		. '
	Cavalo Broccolo	Beetles			Do not make applications less than 7 days apart.
	Kohlrabi	Aphids			
	Cabbage	Whitefly	·		Do not apply within 7 days of harvest.
ı	Chinese Cabbage	Armyworms		,	
	(napa)	Loopers			
	Chinese Mustard	Stink Bugs	*	l	
}	Cabbage (gai	Crickets		}	
	choy)	Ground Beetles			
	*	Thrips	11.		ı
	*	Wireworm	•	1.1	
- 1		(Adults)			
ı	1	Diamondback		F .	
		Moth	• 		
		Banks Grass	0.08-0.10	5.12-6.4	
		Mite		1	
- 1		Twospotted	4		
1		Spider Mite	· 		·
		Pacific Spider	r La		
		Mite	•		
-		Carmine Mite	1	·	
	* . *	Lygus spp.			

## CANEBERRIES

	DOSAGE		GE -	
CROP	PEST	LB AVA	FL OZ/A	REMARKS AND RESTRICTIONS
Caneberries	Leafrollers	0.05-0.10	3.2-6.4	Apply by air or ground equipment using sufficient water to
including:	Orange Tortrix			obtain full coverage of foliage (minimum of 10 gallons per
Blackberries	Root Weevils			acre by air and 50 gallons per acre by ground).
Bingleberries		, , , ,	,	
Dewberries	1 · · · · · · · · · · · · · · · · · · ·	٠ .		One application may be made pre-bloom and a second
Lowberries			,	application may be made post bloom.
Marionberries		- 10 h		
Olallieberries		ı		Do not exceed 0.2 lb. AI/A per season.
Youngberries			, t	
Loganberries				Do not apply within 3 days of harvest.
Raspberries				
	Spider Mites	0.10	6.4	
1				
		,	· ·	
				· '
			,	

## CANOLA, CRAMBE, RAPESEED

	DO	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.04	2.1-2.6	Apply in a minimum of 2 gallons of finished spray per acre by air or in a
Cutworms		• .	minimum of 10 gallons per acre with ground equipment. When applying
Diamondback			by air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of
Moth			water in the finished spray. Thorough coverage is essential to achieve
Loopers	],		control.
Other	ľ		
Lepidopterous			Do not apply more than 0.08 lb active ingredient (5.12 ounces formulated
Larvae			product) per acre per season. Do not make applications less than 14 days
Flea Beetle	1		apart.
Flea Hopper	1		
Grasshopper	1		Do not apply within 35 days of harvest.
Plant Bug			
Stink Bugs	1 , 1	' 1	
Seedpod Weevil	1		· · · · · · · · · · · · · · · · · · ·
Thrips			
Whitefly			
Armyworms			

#### CITRUS

PEST	DOSAGE	REMARKS AND RESTRICTIONS
Diaprepes Root	16-32 ounces (0.25-0.50 pound	Apply to individual citrus resets, when not in solid
Weevil (Diaprepes	active) per acre	planted rows, using hand-gun or shielded sprayer.
abbreviatus)		
Fire Ants		Peak emergence of Diaprepes root weevil
Asian Cockroach		generally occurs in the spring. Depending on
		weather conditions, a minor emergence of
.*		Diaprepes root weevil may also occur in the fall.
		If the citrus grove to be treated is in an area where
		weather conditions are conducive to primary
•		emergence occurring in the spring, 32 fluid ounces
		formulated product should be used to obtain the
		longest residual management of Diaprepes root
		weevil.
		If the citrus grove to be treated is in an area where
		weather conditions will promote more than one
		peak of pest emergence, 16 fluid ounces
		formulated product can be applied early season
		and 16 fluid ounces formulated product can be
•		applied later in the season.
		If emergence extends beyond the residual
		protection of Bifenthrin EC, grower is advised to
		use additional management strategies (i.e. foliar
•		adult control or soil larvae control such as
		nematodes). Contact your state agricultural
*		Extension Specialist as to the recommendation
		suited for local conditions.
•	e e e	Do not apply through irrigation systems.
•		
		Do not allow any application of Bifenthrin EC to
•		contact fruit or foliage.
		Do not apply more than a total of 32 fluid ounces
•		of formulated product (0.5 lb. a.i.) per acre per
$\mathcal{L}_{\mathcal{A}} = \mathcal{L}_{\mathcal{A}}$		year.
	. 1	Apply the specified dosage in a minimum of 30
		gallons of finished spray per acre.
		Ground application only. Do not apply by air.
		Do not apply within 1 day of harvest.

#### COTTON

	DOS	AGE	
PEST	.LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
European Corn Borer	0.02-0.10	1.3-6.4	Bifenthrin EC may be applied in water or refined
Soybean (Banded) Thrips		. **	vegetable oil (soybean/cottonseed).
Tobacco Thrips			
		٠.	Application in Water: Apply in a minimum of 5
			gallons per acre with ground equipment or 1 gallon
\'			per acre by aircraft. When applying by air, I quart of
	•		emulsified oil may be substituted for one quart of
			water in the finished spray.
Boll Weevil	0.04-0.10	2.6-6.4	
Bollworm			ULV Application: Apply the recommended rate of
Cabbage Looper			Bifenthrin EC in refined vegetable oil in a minimum
Cotton Aphid		. ,	of 1 quart of finished spray per acre with aircraft
Cotton Fleahopper			calibrated to give adequate coverage.
Cotton Leafperforator			
Cutworms			To Control Boll Weevil: Apply Bifenthrin EC at an
Fall Armyworm		1. 1. 1.	interval of 3 to 4 days until pest numbers are reduced
Plant Bugs			to acceptable levels.
Saltmarsh Caterpillar	<i>:</i>		
Southern Garden Leafhopper			To Control Mites and Aphids: Apply when pests
Stink Bugs			first appear. Repeat as necessary to maintain control.
Tobacco Budworm			Higher rates will be required once a damaging
Whitefly		·	threshold is established.
Yellow Striped Armyworm			
Beet Armyworm	0.06-0.10	3.8-6.4	Do not apply more than 0.5 pound active ingredient
Carmine Spider Mite			per acre per season.
Lygus spp.			
Pink Bollworm			Do not make more than 10 synthetic pyrethroid
Twospotted Spider Mite			applications (of one product or combination of
			products) to a cotton crop in one growing season.
		2	Synthetic pyrethroid products include Ambush®,
		<u> </u>	Ammo <sup>®</sup> , Asana <sup>®</sup> XL, Baythroid <sup>®</sup> , Capture <sup>®</sup> ,
			Danitol <sup>®</sup> , Karate <sup>®</sup> , Mustang <sup>®</sup> , and Scout X-TRA <sup>®</sup> .
	,		
			Do not graze livestock in treated areas or cut treated
	ė	•	crops for feed.
		:	Do not apply within 14 days of harvest.

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (AT PLANT USE)

PEST	DOS	AGE		REN	MARKS AND	RESTRICTI	ONS
Corn Rootworm, Larvae	0.0046	0.30	Apply as a	5 to 7 inch T-b	and treatment of	over an open s	eed furrow. Position the
Northern	lb AI	fluid .	spray nozz	le behind the pl	lanter shoe, in f	ront of the pre	ess wheel centered over the
Southern	per	ounces	row. Use t	he table below	to determine th	e Bifenthrin E	C needs per acre. Apply
Western	1,000	per	in a minim	um of 3 gallons	s of finished spi	ray per acre.	
e e e e e e e e e e e e e e e e e e e	linear	1,000		_			1. 1. ·
	feet of	linear	Mix Bifent	hrin EC with w	ater or fertilize	r in the follow	ing manner. Fill the spray
	row	feet of	tank appro	ximately one-ha	alf full with wa	ter or liquid fe	ertilizer, add the proper
		row	amount of	Bifenthrin EC t	then add the res	t of the water	or fertilizer. Provide
•			sufficient a	gitation during	mixing and ap	plication to ma	aintain a uniform spray
<u> </u>		*	mixture.		*		4
Army Cutworm	0.0023	0.15 to			•		
Cutworm Species	to .	0.30	Application	ns of Bifenthrin	EC alone or in	recommende	d tank mixtures, in
Grubs	0.0046	fluid	conjunction	n with in furrov	v pop-up fertiliz	zers may be us	sed. A jar compatibility
Seed Corn Beetle	lb AI	ounces	test should	be performed v	with appropriate	e ratio of Bifer	nthrin EC and fertilizer to
Seed Corn Maggot	per	per	ensure mix	ture will stay ir	solution. Con	istant agitation	should be maintained
True Armyworm or	1,000	1,000	during mix	ing and applica	ition.		•
Armyworm Species	linear	linear ·					
Wireworm	feet of	feet of	Do not app	ly to soil where	there is greate	r than 30% co	ver of crop residue
	row	row	remaining.		•		
			Do not gra	ze livestock in t	treated area or o	cut treated cro	ps for feed within 30 days
the second second			of treatmer	jt.		: '	· ·
			Do not app	ly more than 0.	1 pound active	per acre per s	eason as an at plant
	·		application	ı <b>.</b>			
•							
			Do not app	ly within 30 da	ys of harvest.		<u> </u>
Row Spacings (inches)				. 40	38	36	30
Bifenthrin EC Agricultural In	secticide (p	ounds ai pe	er acre)	0.060	0.064	0.069	0.080
Bifenthrin EC Agricultural In	secticide (fo	ormulated I	oroduct,	3.9	4.1	4.4	5.12
ounces per acre)				•	,		

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (PRE & PPI)

PEST	DOSAGE	REMARKS AND RESTRICTIONS
Black Cutworm White Grub Wireworm Seedcorn Maggot Armyworm spp. Stalkborer	0.047 to 3 to 4 fl. 0.062 pound oz./A Pre- AI/A Pre- Plant Incorporated Incorporated (PPI)	The 3-4 oz./A rate must be applied as PPI and can be tankmixed and applied with PPI herbicides. Incorporation of Bifenthrin EC should not be any deeper than the intended planting depth and no deeper than 3 inches.
Black Cutworm Armyworm spp. Stalkborer	0.040 LB 2.56 FL. AI/A Pre- emergence emergence (PRE) (PRE)	The 2.56 oz/A rate may be applied PRE and can be tankmixed and applied with PRE herbicides.

# FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (FOLIAR USE)

10.17	DOSA	GE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.10	2.1-6.4	Apply in a minimum of 2-5 gallons of finished spray per acre by
Army Cutworm		,	aircraft or in a minimum of 10 gallons per acre with ground
Beet Armyworm	,		equipment. To improve control by aircraft, use 5 gallons of
Cereal Leaf Beetle			finished spray per acre particularly when initial populations are
Chinch Bug			heavier than normal. When applying by air, 1-2 quarts of
Common Stalk Borer			emulsified oil may be substituted for 1-2 quarts of water in the
Corn Earworm			finished spray. Thorough coverage is essential to achieve control.
Corn Rootworm Adults		,	
Cucumber Beetle Adult	,	'	To Control Ear-Attacking Pests: Apply Bifenthrin EC just
Cutworm Species	,	}	before silking and repeat as necessary to maintain control.
European Corn Borer			
Fall Armyworm	1		Southwestern Corn Borer, European Corn Borer: Make
Flea Beetle			application for corn borer control with initial application at or
Grasshoppers		i	shortly before egg hatch.
Greenbug			
Japanese Beetle Adult			For Control of Other Insect Pests: Apply when pests first
Sap Beetle			appear and repeat as necessary.
Southern Armyworm			
Southern Corn Leaf Beetle			For Control of Mites: Apply for Banks Grass Mite control when
Southwestern Corn Borer			colonies first form prior to leaf damage or discoloration and before
Stinkbugs			dispersal above the bottom third of the plant.
Tarnished Plant Bug			
True Armyworm or	,		For Twospotted Spider Mite and Carmine Mite Control: Apply
Armyworm			when colonies first form prior to leaf damage or discoloration and
Species	1	, , , , , , , , , , , , , , , , , , ,	before wide-spread mite dispersal throughout the canopy.
Webworms		,	
Western Bean Cutworm	,	,	Higher rates will be necessary for heavier initial populations and
Yellowstriped Armyworm			corn under heat or drought stress. Field experience with
		,	dimethoate at 0.5 lb active per acre in tank mixture has
			demonstrated good control under these conditions.
Banks Grass Mite	0.08-0.10	5.12-6.4	For Mite Control in Texas, New Mexico, Oklahoma, and
Carmine Mite		,	<b>Arizona:</b> Apply in a minimum of 5 gallons of finished spray per
Twospotted Spider Mite	,		acre by aircraft or in a minimum of 10 gallons per acre with
			ground equipment.
;			
<u> </u>			Do not apply more than 0.3 pound active per acre per season
			including pre & ppi, at plant plus foliar applications.
		. 1	
			Do not graze livestock in treated areas or cut treated crops for feed
			within 30 days of the last application.
	;		
			Use of ultra low volume (ULV) application on corn is prohibited.
		<i>*</i>	
			Do not make aerial or ground applications to corn if heavy rainfall
		,	is imminent.
		,	Use of Bifenthrin EC Agricultural Insecticide on corn is prohibited
			in all coastal counties.
		* .	Do not apply within 30 days of harvest.

## SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (AT PLANT USE)

PEST	DOSAGE			REI	MARKS AND	RESTRICTION	ONS
Corn Rootworm, Larvae	0.0046	0.30	Anniv as a				eed furrow. Position the
Northern	pound	fluid				•	ss wheel centered over the
Southern	active	ounces		_		-	C needs per acre. Apply
Western	per	per		um of 3 gallons			e needs per dere. Appry
,, cotern	1,000	1,000	:	um or 5 ganon	or imisiica sp	ray per acre.	
	linear	linear	Mix Bifent	hrin EC with w	ater or fertilize	er in the follow	ing manner. Fill the spray
	feet of	feet of	,				rtilizer, add the proper
· ·	row	row				-	or fertilizer. Provide
	10.11	10,11					untain a uniform spray
	٠.	1	mixture.	8		p	
Army Cutworm	0.0023	0.15 to					
Cutworm Species	to	0.30	Application	ns of Bifenthrir	EC alone or in	n recommende	d tank mixtures, in
Grubs	0.0046	fluid					ed. A jar compatibility
Seed Corn Beetle	pound	ounces					othrin EC and fertilizer to
Seed Corn Maggot	active	per		-			should be maintained
True Armyworm or	per	1,000		ing and applica			
Armyworm Species	1,000	linear					
Wireworm	linear	feet of	Do not app	ly to soil where	there is greate	er than 30% co	ver of crop residue
·	feet of	row	remaining.		J		•
	row	, .		•			
			Do not app	ly within 30 da	ys of harvest.	•	•
,							
			Do not graz	ze livestock in	treated area or	cut treated crop	ps for feed within 30 days
			of treatmen	ıt.			
		. ,		•			
				-	1 pound active	per acre per se	eason as an at plant
			application			, <del>-</del>	
Row Spacings (inches				40	38	36	30
Bifenthrin EC (pounds ai per	acre)			0.060	0.064	0.069	. 0.080
Bifenthrin EC (formulated or	unces per a	cre)	•	3.9	4.1	4.4	5.12

# SWEET CORN (GRAIN AND SILAGE) SWEET CORN GROWN FOR SEED (FOLIAR USE)

	DOSA	GE	1
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.10	2:1-6.4	Apply in a minimum of 2 gallons of finished spray per
Army Cutworm			acre by air or in a minimum of 10 gallons per acre with
Beet Armyworm		,	ground equipment. When applying by air, 1-2 quarts of
Cereal Leaf Beetle			emulsified oil may be substituted for 1-2 quarts of water
Chinch Bug			in the finished spray. Thorough coverage is essential to
Common Stalk Borer			achieve control.
Corn Earworm		٠.	
Corn Rootworm Adults		:	To Control Ear-Attacking Pests: Apply Bifenthrin EC
Cucumber Beetle Adult			when silking begins and repeat as necessary to maintain
Cutworm Species		:	control.
European Corn Borer			
Fall Armyworm			Southwestern Corn Borer, European Corn Borer:
Flea Beetle			Make 2 applications for corn borer control with the initial
Grasshoppers			application at or shortly before egg hatch.
Greenbug	<i>[</i> *	•	
Japanese Beetle Adult			For Control of Other Insect Pests: Apply when pests
Sap Beetle		,	first appear and repeat as necessary.
Southern Armyworm		,	inst appear and repeat as necessary.
Southern Corn Leaf Beetle			For Control of Mites: Apply for Banks Grass Mites
Southwestern Corn Borer		•	control when colonies first form from prior to leaf
Stinkbugs			damage or discoloration and before dispersal above the
Tarnished Plant Bug	9.1		bottom third of the plant.
True Armyworm or Armyworm Species	,	}	bottom and of the plant.
Webworms		. ,	For Twospotted Spider Mite and Carmine Mite Control:
Western Bean Cutworm			Apply when colonies first form prior to leaf damage or
Yellowstriped Armyworm			discoloration and before widespread mite dispersal
Tenewsurped runny worm	1		throughout the canopy.
			throughout the canopy.
Banks Grass Mite	0.08-0.10	5.12-6.4	Higher rates will be necessary for heavier initial
Carmine Mite	0.00 0.10	3.12 0.4	populations and corn under heat or drought stress.
Twospotted Spider Mite	•	·	populations and communder heat of drought stress.
1 wosponed Spider Wite	1 to 1		Do not make more than 0.2 pounds active ingredient
		<u> </u>	(12.8 ounces formulated product) per acre per season.
	18.00		(12.8 ounces formulated product) per acre per season.
			Do not graze livestock in treated areas of cut treated crops
			for feed within 1 day of the last application.
	1	·	for recu-within 1 day of the last application.
			Use of ultra low volume (ULV) application on corn is
			prohibited.
			Do not make conict or ground and live in a conict of
	,		Do not make aerial or ground applications to corn of
	4. V	- 	heavy rainfall is imminent.
			W (D)(C) 1 - FQ
*	and the first	, , ,	Use of Bifenthrin EC on corn is prohibited in all coastal
			counties.
	•	. 1	
i 1			Do not apply within 1 day of harvest.

# CUCURBITS

		DOSA	GE	
CROP	PEST	LB Al/A	FL	REMARKS AND RESTRICTIONS
1			OZ/A	The state of the s
Chayote (fruit)	Aphids	0.04-0.10	2.6-6.4	Apply in a minimum of 5 gallons of finished spray
Chinese waxgourd	Cutworm	0.010.10	2.0.0	per acre by air or in a minimum of 20 gallons per
(Chinese preserving	Cabbage Looper			acre with ground equipment. When applying by
	Leafhoppers			air, 1-2 quarts of emulsified oil many be substituted
melon)	1		' '	
Citron melon	Cucumber Beetles			for 1-2 quarts of water in the finished spray.
Cucumber	Squash Bugs			Thorough coverage is essential to achieve control.
Gherkin	Melonworm	;		
Gourd, edible	Pickleworm		· .	Do not apply more than 0.3 lb active ingredient
(includes hyloan,	Plant Bug	, +	' .,	(19.2 ounces formulated product) per acre per
cucuzza), (Luffa	Stink Bugs			season.
spp.) (includes	Rindworm	1 1 1		
hechima, Chinese	Squash Vine Borer	1		Do not make more than two applications after
okra), (Momordica	Armyworms			bloom.
spp.) (includes	Corn Earworm	, ,		
balsam apple,	Tobacco Budworm			Do not make applications less than 7 days apart.
balsam pear, bitter	Grasshopper			
melon, Chinese				Do not apply within 3 days of harvest.
cucumber)		1	1 1 1 1 1 1	
Muskmelon (hybrids		3.		
and/or cultivars	,		,	
of Cucumis melo)				
(includes		0.08-0.10	5.12-6.4	
true cantaloupe,	Whitefly	3.00 0.10	3.12 0.7	
cantaloupe	Banks Grass Mite			
casaba, crenshaw	Twospotted Spider		l	
melon, golden,	Mite	,	'	,
_		V.		<i>i</i>
pershaw melon,	Carmine Mite		,	'
honeydew melon,	Lygus spp.			
honey balls, mango		-		
melon, Persian			1	
melon, pineapple				
melon, Santa	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	. '		
Claus melon, and				
snake melon)				
Pumpkin (Cucurbita spp.)	1	i 4		
Squash, summer				
(includes crookneck				
squash, scallop		.	1	
squash, straightneck	, i			**
squash, vegetable			· :	. '
marrow, zucchini)		:		
Squash, winter				
(includes butternut				
squash, calabaza,	<u>:</u>			
hubbard squash			,	
(C. mixte; C. pepo),	4 (		'- '-	
includes acorn	,			
squash, spaghetti			٠,	
	. '	4.1		
squash)				
Watermelon,		.,		
(includes hybrids and		1		
or varieties of Citrullis	*			
spp.)	, ,			

## **EGGPLANT**

_	DO	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Colorado Potato Beetle	0.033-0.10	2.1-6.4	Apply in a minimum of 2 gallons of finished spray per acre by air or in a
Corn Earworm			minimum of 10 gallons per acre with ground equipment. When applying by
European Corn Borer			air, 1-2 quarts of emulsified oil may be substituted for 1-2 quarts of water in
Flea Beetle			the finished spray. Thorough coverage is essential to achieve control.
Cabbage Looper	•		
Cucumber Beetle			Do not make applications less than 7 days apart.
Tomato Pinworm			
Tomato Hornworm		,	Do not apply more than 0.2 lb active ingredient (12.8 ounces formulated
Vegetable Leafminer	1.1		product) per acre per season.
Whitefly	4	,	
Armyworms	·		Do not apply within 7 days of harvest.
Plant Bug		•	
Stink Bug			
Thrips			
		1	
,			
Banks Grass Mite	0.08-0.10	5.12-6.4	
Twospotted Spider			
Mite			
Carmine Mite			
Pacific Spider Mite			
Lygus spp.	,		

## HOPS

	DOSA	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.06-0.1	3.8-6.4	Do not exceed 0.1 lb ai per acre <b>per application</b> .
Armyworms			Do not exceed 0.3 lb ai per acre per season.
Cutworms		4.	
Leafrollers			A spray interval of 21 days between applications must be maintained.
Loopers		1 4	
Root Weevils	0.05-0.1	3.2-6.4	A 14 day pre-harvest interval must be observed.
		```	Application by ground: For best results, full coverage is essential. Early season
Twospotted spider	0.1	6.4	recommend 100-150 gallons of spray per acre. Late season recommend 200-250
mite	<i>:</i> .		gallons of spray per acre.
	ì .	1	
	,		For Root Weevil control, make a directed spray to the base of the plant. Spray up
		· ·	the vine 3 feet and the soil surface 1.5 to 2 feet on either side of the plant.
;			Application by air for late season control of twospotted spider mites: Apply no less than 6.4 oz (0.1 lb ai) per application in a minimum of 10 gallons per
	'		acre.
·	4		

#### LETTUCE, HEAD

	DO	SAGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.033-0.10	2.1-6.4	Apply in water as necessary for insect control using a minimum of 15
Armyworms			gallons of finished spray per acre with ground equipment and 5 gallons per
Corn Earworm	,		acre by air. When applying by air, 1-2 quarts of emulsified oil may be
Cucumber Beetles		, ;	substituted for 1-2 quarts of water in the finished spray. Thorough coverage
Cutworms			is essential to achieve control.
Diamondback Moth	i !		
Flea Beetles	• .	Å.	Do not make applications less than 7 days apart.
Imported		i	
Cabbageworm		, ;	A maximum of 0.5 lb active ingredient may be applied per acre per season.
Leafhoppers		* .	
Loopers			Do not apply within 7 days of harvest.
Salt Marsh Caterpillar			f(f) = f(f)
Stink Bug spp.			
Tobacco Budworm	,		
Whitefly	:		
,	i I		
,	1 	, i.	
	0.00.010		
Lygus, spp.	0.08-0.10	5.12-6.4	
Carmine Mite			
Twospotted Spider			
Mite		L <u>.</u>	

## **PEARS**

,	DOS	AGE	
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Aphids	0.04 to 0.2	2.6 to 12.8	Application by ground: Apply as a dilute (minimum of 200 gallons of finished
Coddling Moth			spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre)
Cutworms		r	spray in sufficient water to provide thorough coverage.
Green,	•		
Fruitworm	•		Application by air: Apply the specified dosage in a minimum of 10 gallons per
Leafhoppers			acre by air.
Leafminers			
Leafrollers		•	Do not apply more than 0.5 pound active per acre per season with no more than
Lygus spp.	r		0.45 pound active per acre applied after petal fall.
Plant Bugs		'	
Plum Curculio			Apply as necessary to maintain control using a minimum of 30 day spray
San Jose			interval.
Scale (Crawlers)			
Stink Bugs	:	٠.,	Do not graze livestock in treated orchards or cut treated cover crops for feed.
Tarnished		1000	
Plant Bugs			
Twospotted Spider	0.06 to 0.2	8.8 to 12.8	Apply up to 14 days prior to harvest.
Mite	•		
Yellow Mite			
European Red Mite	0.08 to 0.2	5.12 to 12.8	

## PEPPERS, BELL AND NON-BELL

	DOSA	GE	Y .
PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS
Armyworms	:0.033-0.1	2.1-6.4	Apply using sufficient water to obtain uniform coverage. Apply as needed. Apply
Corn Earworm			with ground equipment using a minimum of 10 gallons of finished spray per acre or
Cucumber Beetles		2	a minimum of 2 gallons per acre by aircraft.
Cutworms	. :		
European Corn			Do not make applications less than 7 days apart.
Borer			
Flea Beetles			Do not apply more than 0.20 pound active ingredient per acre per season.
Leafminers			
Loopers	·		Do not apply within 7 days of harvest.
Pepper Weevil	1.		
Thrips			
Whitefly			
Lygus spp.	0.8-0.10	5.12-6.4	
Broad Mite			
Carmine Mite		·	
Twospotted Spider			
Mite			

## SPINACH

PESTS	DOSAGE	REMARKS AND RESTRICTIONS
Colorado Potato Beetle	2.1 to 6.4 ounces (0.033 to	For control of whiteflies apply foliar treatments of Bifenthrin EC by
Tomato Pinworm	0.10 pound active) per acre	ground or air at rates of up to 0.4 pt. (0.1 lb active) per acre at minimum
Tomato Hornworm		7-day intervals up to a maximum of 4 applications.
Armyworms	· ·	
Corn Earworm	,	For control of fire ants apply Bifenthrin EC to the soil (at planting) or as a
Cucumber Beetles		foliar treatment by ground or air at rates of up to 0.4 pt. (0.1 lb active) per
Cutworms		acre at minimum 7-day intervals up to a maximum of 4 applications.
European Corn Borer	1	
Flea Beetles		Apply the specified dosage in 5-50 gallons of finished spray per acre by
Leafminers		air or 10-50 gallons of finished spray per acre by ground.
Loopers	·	
Pepper Weevil		Do not make applications less than 7 days apart.
Thrips		
Whitefly	<i>t</i>	
Broad Mite	5.12 to 6.4 ounces (0.08 to	Do not apply more than 0.4 pounds active ingredient per acre per season.
Banks Grass Mite	0.10 pound active) per acre	
Twospotted Spider Mite	1	Do not apply within 40 days of harvest.
Carmine Mite		
Pacific Spider Mite		
Lygus spp.;		
Fire Ants		

# SUCCULENT PEAS AND BEANS

1 1		DOSAGE			
CROP	PEST	LB AI/A	FL OZ/A	REMARKS AND RESTRICTIONS	
Pea (Pisum spp.)	Flea Beetle	0.025-0.10	1.6-6.4	Apply in a minimum of 2 gallons of finished spray per acre by	
Dwarf pea	Grasshoppers	. :		air or in a minimum of 10 gallons per acre with ground	
Edible-pod pea	Aster "		/	equipment. When applying by air, 1-2 quarts of emulsified oil	
English pea	Leafhopper			may be substituted for 1-2 quarts of water in the finished spray.	
Garden pea	Leafhoppers			Thorough coverage is essential to achieve control.	
Green pea	Aphids	0.033-0.10	2.1-6.4		
Snowipea	Beet Armyworm	0.033-0.10	2.1-0.4	Do not apply more than 0.2 lb active ingredient (12.8 ounces	
Sugar snap pea	Fall Armyworm		1	formulated product) per acre per season.	
Pigeon pea	Southern				
Bean (Phaseolus	Armyworm			Do not apply within 3 days of harvest	
spp.):	Yellowstriped				
Broadbean	1 5				
(succulent)	Armyworm Bean Leaf				
Lima bean					
(green)	Beetle		{		
Runner bean	Cucumber				
Snap bean	Beetles	,			
Wax bean	Japanese Beetle				
Bean (Vigna spp.):	(Adult)				
Asparagus bean	Sap Beetle				
Blackeyed pea	Plant Bug				
Chinese longbean	Stink Bugs				
Cowpeas	Tarnished Plant				
Moth bean	Bug	`			
Southern pea	Alfalfa	' ,			
Yardlong bean	Caterpillar				
Jackbean	Cloverworm				
Soybean	European Corn	· ·	,		
(immature seed)	Borer				
Sword beân	Cutworms				
Sword beam	Western Bean				
	Cutworm				
V	Corn Earworm		,		
	Loopers				
	Corn Rootworm				
	(Adult)				
	Thrips				
	Webworms				
	Pea Weevil				
	Pea Leaf Weevil	· *			
	Whitefly	<u> </u>			
1 10	Banks Grass	0.08-0.10	5.12-6.4		
; 1	Mite				
	Twospotted		, i .		
	Spider Mite	1			
A Company	Carmine Mite				
, ,	Lygus spp.	j ,		·	

#### TOMATOES

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PEST	DOSAGE	REMARKS AND RESTRICTIONS	
Aphids	2.1-5.2 fluid ounces (0.033-0.08	Apply in water as necessary for insect control	
Armyworms – Including:	pound active) per acre	using a minimum of 15 gallons of finished spray	
Beat Armyworm, Fall		per acre with ground equipment.	
Armyworm, Southern			
Yellowstriped Armyworm		Thorough coverage is essential to achieve	
Bean Leaf Beetle		control.	
Cabbageworm			
Carmine Mite		Do not make applications less than 10 days	
Cloverworm		apart.	
Corn Earworm			
Corn Rootworm		A maximum of 4 applications may be applied	
Cucumber Beetles		per season.	
Cutworms			
Diamondback Moth		Do not apply within 1 day of harvest.	
European Corn Borer			
Flea Beetles			
Flea Hopper			
Grasshopper			
Japanese Beetle (Adult)			
Leafhoppers			
Loopers	1		
Lygus spp.			
Melonworm			
Pea Weevil			
Pea Leaf Weevil			
Pickleworm			
Plant Bug	6		
Rindworm			
Salt Marsh Caterpillar			
Sap Beetle			
Seedpod Weevil			
Squash Bugs			
Stink Bug spp.	1		
Tobacco Budworm			
Tarnished Plant Bug			
Thrips			
Two Spotted Spider Mite			
TWO Shouled Shider Mille			

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DRAFT 10/02/03



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#### DATA MATRIX

	· · · · · · · · · · · · · · · · · · ·		
Date: October 1, 2003		EPA Reg No./ File Symbol	Page 1 of 6
``		70506-	
Applicant's/Registrant's Name and Address:		Product: Bifenthrin EC Agricultural Insecticide	•
United Phosphorus, Inc.		· ·	•
423 Riverview Plaza			
Trenton, NJ 08611			
Ingredient: Bifenthrin (PC 128825)			. •

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
PRODUCT SPECIFIC DATA				-	1
830.1550	Chemical identity		UPI	own	
830.1600	Starting Materials		UPI	Own	
830.1650	Description of formulation process		UPI	Own	
830.1670	Discussion of formation of impurities	-	UPI	own	
830.1750	Certified limits	-	UPI	Own	
830.1800	Enforcement analytical method		UPI	Own	
830.6302	color		UPI	own	
830.6303	Physical state		UPI	Own	
830.6304	odor		UPI	Own	
830.6314	Oxidation/reduction.		UPI	Own	
830.6315	flammability		UPI	Own	
830.6316	Explodability		UPI	Own	
830.6317	Storage stability		UPI	Own	
830.6319	Miscibility		UPI	Own	
830.6320	Corrosion characteristics		UPI	Own	
830.6321	Dielectric breakdown voltage		UPI	Own	
830.7000	рН		UPI	Own	
830.7100	viscosity		UPI	Own	
830.7300	Density/relative density/bulk density		UPI	Own	
870.1100	Acute oral toxicity	132527	FMC	Old	
870.1200	Acute dermal toxicity	132528	FMC	Old	,
870.1300	Acute inhalation toxicity	144256	FMC	Old	

Signature	Name and Title	Date
Harris Dan Shaward	Elizabeth Anne Brown, ChemReg International, LLC	10/1/2003
Plejauer ance Brown	Registration Agent	205



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#### DATA MATRIX Page 2 of 6 Date: October 1, 2003 EPA Reg No./ File Symbol 70506-Product: Bifenthrin EC Agricultural Insecticide Applicant's/Registrant's Name and Address: United Phosphorus, Inc. 423 Riverview Plaza Trenton, NJ 08611 Ingredient: Bifenthrin (PC 128825)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note ,	
870.2400	Eye irritation	132530	FMC	Old		
870.2500	Dermal irritation	132529	FMC	Old		-
870.2600	Dermal sensitization	132531	FMC	Old		
91-8	Efficacy – fire ants	CITE ALL	FMC, The Scotts Company, Aventis Environmental Sciences	pay		
GENERIC DATA						
61-1 (830.1550)	Chemical identity	45654401	United Phosphorus Inc (UPI)	Own		
61-2a (830.1620)	Starting materials and manufacturing process	45654401	UPI	Own		
61-2b (830.1670)	Formation of impurities	45654401	UPI	Own		
62-1 (830.1700)	Preliminary analysis	45654401	UPI	Own		
62-2 (830.1750)	Certification of limits	45654401	UPI	Own.		
62-3 (830.1800)	Analytical method	45654401	UPI	Own		
63-2 (830.6302)	Color	45654402	UPI	Own .		
63-3 (830.6303)	Physical state	45654402	UPI	Own		
63-4 (830.6304)	Odor	45654402	UPI	Own		
None (830.7050)	UV/Visible Absorption	CITE ALL	FMC Corp Agricultural Products Group (FMC); The Scotts Co (Scotts); The Andersons Lawn Fertilizer Division, Inc. (Andersons)	pay		
63-5 (830.7220)	Melting point	45838001	UPI ( )	owņ		

Signature	Name and Title	Date
Here as A as Shearen	Elizabeth Anne Brown, ChemReg International, LLC	10/1/2003
Physica ane Brown	Registration Agent	226
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	DATA MATRIX	
Date: October 1, 2003	EPA Reg No./ File Symbol 70506-	Page 3 of 6
Applicant's/Registrant's Name and Address: United Phosphorus, Inc. 423 Riverview Plaza Trenton, NJ 08611	Product: Bifenthrin EC Agricultural Insecticide	
Ingredient: Bifenthrin (PC 128825)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
63-7 (830.7300)	Density	45838001, 46008501, 46008502	UPI	own	
63-8 (830.7840)	Solubility	CITE ALL	FMC, Scotts, Andersons	pay	
63-9 (830.7950)	Vapor pressure	CITE ALL	FMC, Scotts, Andersons	Pay	
63-10 (830.7370)	Dissociation constant	CITE ALL	FMC, Scotts, Andersons	Pay .	
63-11 (830.7550)	Octanol/water partition	CITE ALL	FMC, Scotts, Andersons	Pay	
63-12 (830.7000)	рН	45838001	UPI	own	
63-13 (830.6313)	Stability	45654403	UPI	own	
830.6314	Oxidation/reduction	45838001	UPI	Own	
830.6315	Flammability	45838001	UPI	Own	
830.6316	explodability	45838001	UPI	Own	
830.7220	Boiling point	45838001	UPI -	Own	
830.7370	Dissociation constant	45838001	UPI	own	
71-1b (850.2100)	Avian acute oral toxicity	CITE ALL	FMC, Scotts, Andersons	Pay	
71-2 (850.2200)	Avian dietary toxicity	CITE ALL	FMC, Scotts, Andersons	Pay	
71-4 (850.2300)	Avian reproduction	CITE ALL	FMC, Scotts, Andersons	Pay	_
72-1 (850.1075)	Fish acute toxicity	CITE ALL	FMC, Scotts, Andersons	Pay	
72-2 (850.1010)	Invertebrate toxicity	CITE ALL .	FMC, Scotts, Andersons	Pay	
72-3 (850.1025 - 1055)	Estuarine/marine toxicity	CITE ALL	FMC, Scotts, Andersons	Pay	
72-4 (850.1300)	Invertebrate Chronic toxicity	CITE ALL	FMC, Scotts, Andersons	Pay	
72-4 (850.1350)	Invertebrate chronic toxicity	CITE ALL	FMC, Scotts, Andersons	Pay	
72-5 (850.1400)	Fish life early life cycle	CITE ALL	FMC, Scotts, Andersons	Pay	

Signature	Name and Title	Date
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#### DATA MATRIX Page 4 of 6 Date: October 1, 2003 EPA Reg No./ File Symbol 70506-Product: Bifenthrin EC Agricultural Insecticide Applicant's/Registrant's Name and Address: 5 United Phosphorus, Inc. 423 Riverview Plaza Trenton, NJ 08611 Ingredient: Bifenthrin (PC 128825)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
141-1 (850.3020)	Honeybee acute contact toxicity	CITE ALL	FMC, Scotts, Andersons	pay	
81-1 (870.1100)	Acute oral – rat	45654404	UPI	Own	
81-2 (870.1200)	Acute dermal – rabbit/rat	45645505	UPI	Own	·
81-3 (870.1300)	Acute inhalation – rat	00155286	FMC	Old	
81-4 (870.2400)	Primary eye irritation – rabbit	00132522	FMC	Old	
81-5 (870.2500)	Primary dermal irritation – rabbit	00132521	FMC	Old	
81-6 (870.2600)	Dermal sensitization	00132523	FMC	Old	
81-8 (870.6200)	Acute neurotoxicity	CITE ALL	FMC, Scotts, Andersons	Pay	
82-1 (870.3100)	90-Day feeding	CITE ALL	FMC, Scotts, Andersons	pay	
82-2 (870.3200)	21-Day dermal toxicity – rats	CITE ALL	FMC, Scotts, Andersons	Pay	
82-7 (none)	Subchronic neurotoxicity - rat	CITE ALL	FMC, Scotts, Andersons	pay	
83-1a (870.4100)	Chronic feeding toxicity – rodent	CITE-ALL	FMC, Scotts, Andersons	Pay	
83-1b (870.4100)	Chronic feeding toxicity – dog	CITE-ALL	FMC, Scotts, Andersons	Pay	•
83-2a (870.4200)	Oncogenicity – rat	CITE-ALL	FMC, Scotts, Andersons	Pay	
83-2b (870.4200)	Oncogenicity mouse	CITE-ALL	FMC, Scotts, Andersons	Pay	
83-3a (870.3700)	Teratogenicity – rat	CITE-ALL	FMC, Scotts, Andersons	Pay	
83-3b (870.3700)	Teratogenicity – rabbit	CITE-ALL	FMC, Scotts, Andersons	Pay	
OPPTS 870.6300	Developmental Neurotoxicity	Data gap			
84-2	Mutagenicity studies	CITE-ALL	FMC, Scotts, Andersons	Pay	
84-4	Other genotoxic effects	CITE-ALL	FMC, Scotts, Andersons	Pay	
85-1 (870.7485)	General metabolism	CITE-ALL	FMC, Scotts, Andersons	Pay	
85-2	Dermal absorption	CITE-ALL	FMC, Scotts, Andersons	Pay	
161-1	Hydrolysis	CITE ALL	FMC, Scotts, Andersons	Pay	

Signature	Name and Title	Date
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DATA MATRIX				
Date: October 1, 2003		EPA Reg No./ File Symbol 70506-	Page 5 of 6	
Applicant's/Registrant's Name and Address:		Product: Bifenthrin EC Agricultural Insecticide		
United Phosphorus, Inc.			•	
423 Riverview Plaza		·	•	
Trenton, NJ 08611	i			
Ingredient: Bifenthrin (PC 128825)	•			

Guideline Reference Number	Guideline-Study Name	MRID Number	Submitter	Status	Note
161-2	Photodegradation in water	CITE ALL	FMC, Scotts, Andersons	Pay	-
162-1	Aerobic soil metabolism	CITE-ALL	FMC, Scotts, Andersons	Pay	
163-1	Adsorption/desorption	CITE ALL	MC, Scotts, Andersons	Pay	
164-1 (875.2200)	Field soil dissipation	CITE-ALL	FMC, Scotts, Andersons	Pay	
165-4	Bioaccumulation in fish	CITE-ALL	FMC, Scotts, Andersons	pay	,
Special studies	Other	CITE ALL	Pyrethroid Working Group	pay	
132-1 (857.2100)	Foliar residue dissipation	CITE ALL	FMC, Scotts, Andersons	Pay	
133-3 (875.2400, 2500)	Dermal exposure	CITE ALL	UPI is a member of the Ag Re-entry task force; UPI is a member of the Outdoor Residential Task Force	Own	
133-4 (857.2500)	Inhalation exposure	CITE ALL	UPI is a member of the Ag Re-entry task force; UPI is a member of the Outdoor Residential Task Force	Own	
201-1, 202-1 (840.1100, 835.4200)	Spray drift and droplet size	CITE ALL	UPI is a member of the Spray Drift Task Force	Own	
171-4a	Nature of residue – plants	CITE ALL	FMC	Pay	
171-4b	Nature of residue – livestock	CITE ALL	FMC	Pay	
171-4c	Residue analytical method – plants	CITE ALL	FMC	Pay	
171-4d	Residue analytical method – animals	CITE ALL	FMC	Pay	· ·
171-4e	Residue storage stability	CITE ALL	FMC	Pay	
171-4j	Magnitude of residues – meat/milk/poultry/egg	CITE ALL	FMC	Pay	
171-4k	Magnitude of residues – field crop trials	CITE ALL	FMC, IR-4	Pay	
171-41	Magnitude of residues – processed commodities	CITE ALL	FMC	Pay	

Signature	Name and Title	Date
Ye a day of the same of	Elizabeth Anne Brown, ChemReg International, LLC	10/1/2003
Higasier ane Brown	Registration Agent	200



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DATA MATRIX				
Date: October 1, 2003	EPA Reg No./ File Symbol 70506-	Page 6 of 6		
Applicant's/Registrant's Name and Address:	Product: Bifenthrin EC Agricu	Iltural Insecticide		
United Phosphorus, Inc.		•		
423 Riverview Plaza				
Trenton, NJ 08611				
Ingredient: Bifenthrin (PC 128825)	,			

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
171-4m	Multi-residue method	CITE ALL	FMC	Pay	
165-1	Confined rotational crop	CITE ALL	FMC	Pay	
165-2	Field rotational crop	CITE ALL	FMC .	Pay	

Signature	Name and Title	Date
Year and the Samuel	Elizabeth Anne Brown, ChemReg International, LLC	10/1/2003
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## Date: October 1, 2003 EPA Reg No./ File Symbol 70506 Applicant's/Registrant's Name and Address: United Phosphorus, Inc. 423 Riverview Plaza Trenton, NJ 08611 Ingredient: Bifenthrin (PC 128825)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
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			UPI	Own	
			UPI	Own	
			FMC	Old	
			FMC	Old	
			FMC	Old	

Signature			
Elizabeth Ance	Brown		

Name and Title Elizabeth Anne Brown, ChemReg International, LLC Registration Agent Date 10/1/2003



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#### DATA MATRIX Date: October 1, 2003 EPA Reg No./ File Symbol Page 2 of 6 70506-Applicant's/Registrant's Name and Address: Product: Bifenthrin EC Agricultural Insecticide United Phosphorus, Inc. 423 Riverview Plaza Trenton, NJ 08611 Ingredient: Bifenthrin (PC 128825)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
			FMC	Old	_
			FMC	Old	
			FMC	Old	
			FMC, The Scotts Company, Aventis	pay	
			Environmental Sciences		
			· · · · · · · · · · · · · · · · · · ·	<u> </u>	
	₽*		United Phosphorus Inc (UPI)	Own	
			UPI	Own	
			UPI	Own	
			UPI	Own.	
			UPI	Own	
			UPI	Own	
			UPI	Own	
			UPI	Own	
			UPI ·	Own	
			FMC Corp Agricultural Products Group	pay	
			(FMC); The Scotts Co (Scotts); The		
			Andersons Lawn Fertilizer Division, Inc.		
			(Andersons)		
			UPI	own	

Signature	Name and Title	Date
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#### U.S. Environmental Protection Agency, 401 M Street, S.W., Washington DC 20460. Do not send the form to this address. DATA MATRIX EPA Reg No./ File Symbol Date: October 1, 2003 Page 3 of 6 70506-Applicant's/Registrant's Name and Address: Product: Bifenthrin EC Agricultural Insecticide United Phosphorus, Inc. 423 Riverview Plaza Trenton, NJ 08611 Ingredient: Bifenthrin (PC 128825)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
			UPI	own	
			FMC, Scotts, Andersons	pay	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay	
			UPI	own .	
			UPI .	own	.′
			UPI	Own	-
			UPI	Own	,
			UPI	Own	
			UPI	Own	
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			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay	

Signature	Name and Title	Date
Yes and Many	Elizabeth Anne Brown, ChemReg International, LLC	10/1/2003
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EPA Reg No./ File Symbol 70506-	Page 4 of 6
Product: Bifenthrin EC Agricultural Insecticide	
	Product: Bijenthrin EC Agricultural insecticide

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
			FMC, Scotts, Andersons	pay	
			UPI	Own	
			UPI	Own	
			FMC	Old	
			FMC	Old	,
			FMC	Old	
			FMC	Old	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	pay	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	pay	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay.	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay	
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			<del>.</del>		<u> </u>
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay .	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay	

Signature	Name and Title	Date
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#### DATA MATRIX Date: October 1, 2003 EPA Reg No./ File Symbol Page 5 of 6 70506-Applicant's/Registrant's Name and Address: Product: Bifenthrin EC Agricultural Insecticide United Phosphorus, Inc. 423 Riverview Plaza Trenton, NJ 08611 Ingredient: Bifenthrin (PC 128825)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
			FMC, Scotts, Andersons	Pay	· · · · · · · · · · · · · · · · · · ·
			FMC, Scotts, Andersons	Pay	
			MC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	Pay	
			FMC, Scotts, Andersons	pay	·
			Pyrethroid Working Group	pay	
			FMC, Scotts, Andersons	Pay	
			UPI is a member of the Ag Re-entry task	Own	
			force; UPI is a member of the Outdoor		
			Residential Task Force	_	
			UPI is a member of the Ag Re-entry task	Own	
			force; UPI is a member of the Outdoor		
			Residential Task Force		
			UPI is a member of the Spray Drift Task	Own	
			Force	<u> </u>	
			FMC	Pay	•
			FMC	Pay	
			FMC	Pay	
			FMC	Pay	
			FMC	Pay	
			FMC	Pay	
			FMC, IR-4	Pay	· -
			FMC	Pay .	

Signature	Name and Title	Date
Elizabet ance Brown	Elizabeth Anne Brown, ChemReg International, LLC	10/1/2003
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Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
			FMC	Pay	
			FMC	Pay	
			FMC	Pay	

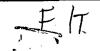
Signature Ulijaneer Anne Brown Name and Title

Elizabeth Anne Brown, ChemReg International, LLC

Registration Agent

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DIRECT: 703-492-7905 MAIN:

703-492-0445

703-492-0668

E-MAIL:

brown@chemreg.com

WEB SITES: www.chemreg.com

www.pesticide.net

ELIZABETH A. BROWN, PH.D.

October 6, 2003

Fax:

Document Processing Desk (APPL) U.S. Environmental Protection Agency (7505C) U.S. Environmental Protection Agency Room 266A, Crystal Mall 2 1921 Jefferson Davis Highway Arlington, VA 22202-4501

Attn: George LaRocca (PM 13)

Re: Application for Registration of "Me-Too" Bifenthrin EC Agricultural Insecticide

On behalf of our client, United Phosphorus, Inc. (UPI), we are submitting an application for a "me-too" registration of Bifenthrin EC Agricultural Insecticide Insecticide (EPA Product Code 128825). This product is substantially similar in composition and labeling to the already registered EPA Reg No. 279-3069 (based on most recent label approval of 5/7/2003).

Enclosed with this letter, please find the following items:

- 1. Application Form (EPA Form 8570-1)
- 2. Confidential Statement of Formula (EPA Form 8570-4)
- 3. Data matrix forms, Agency Use and Public File copies (EPA Form 8570-35)
- 4. Certification with Respect to Citation of Data (EPA Form 8570-34)
- 5. Five (5) copies of the proposed labeling
- 6. Transmittal document
- 7. Three (3) copies of each submitted study.

Please note that we are relying upon the selective cite-all method to satisfy data requirements that have not been satisfied by data submitted by UPI. Data submitted for this application also fulfills requirements for a concurrent application for Bifenthrin EC-CA Agricultural Insecticide; the two products are identical in composition but the uses are limit the EC-CA in comparison to this application.

#### CONSULTANTS TO SUCCESS<sup>SM</sup>

Over One Hundred and Fifty Years of Combined Experience Assisting Chemical, Pesticide, Bio-Chemical and Life Science Companies on a Wide Range of Issues, Including Regulatory Strategies, Registration, Data Support and Compensation, Quality Assurance, Study Design and Scientific Matters.



Letter to G. Larocca, October 6, 2003, page 2

Please let me know if you have any questions about this application or if any additional information is needed.

Sincerely,

Elizabeth Aus Brown

Elizabeth Anne Brown, Ph.D.

cc: United Phosphorus, Inc.

#### TRANSMITTAL DOCUMENT

#### Submitter

United Phosphorus, Inc 423 Riverview Plaza Trenton, NJ 08611

#### Regulatory action in support of which this package is submitted

New Product Registration ("Me-Too")
(Bifenthrin EC Agricultural Insecticide)
(Bifenthrin EC-CA Agricultural Insecticide)

### Transmittal Date October 6, 2003

#### **Submitted Studies**

	MRID	
		Administrative Materials
Document 1:		Tillman, A. Sept. 19, 2003. Bifenthrin EC Agricultural Insecticide, Bifenthrin EC-CA Agricultural Insecticide. Product Identity, Composition and Analysis (Group A). United Phosphorus, Inc. Report No. UPI-Bifen EC – 2003-10. 44 pages. Contains Confidential Business Information.
Document 2		Tillman, A. Sept. 19, 2003. Bifenthrin EC Agricultural Insecticide, Bifenthrin EC-CA Agricultural Insecticide. Self-certification of physical/chemical properties. United Phosphorus Inc. Report No. UPI-Bifen EC 2003-11. 5 pages.

Company Official

Heganes are Brown

Company Name:

ChemReg International, LLC., Authorized Representative for UPI

Company Contact:

Elizabeth Anne Brown

Phone Number:

703-492-7905

\*Pages 340-341 Confidential Statement of Formula may be entitled to confidential treatment\*

# \*Inert ingredient information may be entitled to confidential treatment\*

#### CHEMICAL NAME/PESTICIDE CHEMICAL CODE (PCC) REQUEST FORM BRUCE F. KITCHENS REOUEST DATE: DEC. 8, 2003 REQUESTOR NAME: ORG: TRB/RD ROOM: 270 CM2 MAIL CODE: 7505C TEL: 308-9372 (Division/Branch) CSF ATTACHED: YES If CSF is attached complete Item A and the chemical name in Item B If CSF is not attached complete Item A through Item C A. INFORMATION REQUIRED: ✓ Check Applicable Category Provide PCC and Tolerance Exemption Status for Food-Use Inert Ingredient(s) Provide PCC for Non-Food Use Inert Ingredient(s) Provide PCC for Active Ingredient(s) Provide PCC for Dye Determine if Fragrance is Acceptable for Use in Formulation Other (Describe): B. INGREDIENT INFORMATION: Ingredient No. 2: Ingredient No. 1: Chem. Name: Chem. Name: Trade Name: Trade Name: CAS Reg. No.: CAS Reg. No: Ingredient No. 4 Ingredient No. 3: Chem. Name: Chem. Name: Trade Name: Trade Name: CAS Reg. No.: CAS Reg. No.: C. PESTICIDE PRODUCT INFORMATION BIFENTHRIN EC AGRICULTURAL EPA Reg. No./File Symbol: 70506-LT Product Name: INSECTICIDE UNITED PHOSPHORUS, INC. Food- Use Pesticide: No Registrant:: Percent in Formulation (For Fragrances/Dyes % INFORMATION REPORTED: Ingredient No. 1: Ingredient No. PCC: Tol. Status/Other Info.: 46 CFR 186 1601 Tol. Status/Other Ingredient No. 4 PCC: Tol. Status/Other Info.: Tol. Status/Other

Once completed, this form may be entitled to treatment as CBI under section 10 of FIFRA. If so, a red CB41

\*Confidential Statement of Formula may be entitled to confidential treatment\*